Dryden Conservation Board
November 26, 2019

Members Present:	Peter Davies (Chair), Bob Beck, Gian Dodici, Jeanne Grace, Nancy Munkenbeck (at 7:20), Craig Schutt, and Milo Richmond
Absent:	Anne Clark, David Wilson and Tim Woods
Liaisons:	Craig Anderson, Planning Board
Guest(s)	Loren Sparling and David Weinstein

The meeting was called to order at 7:01 p.m.

Review and approval of minutes dated October 29, 2019
Discussion regarding minor changes to minutes, minutes were approved with changes. Motion made by C. Schutt, seconded by G. Dodici, P. Davies abstained due to his absence from that meeting, minutes were approved.

M. Richmond was made a voting member in the absence of T. Woods.

Reports and Updates

Agricultural Advisory Committee – C. Schutt
See attached report.

Planning Board – C. Anderson
Recommended changes to the zoning for Varna.

D. Weinstein – The Varna Plan (2012) has a proposed build-out of approximately 450 bedrooms to the 800 that were already in Varna. The plan was to increase Varna by 50%. The zoning allows for 2,700 bedrooms to be added. A subcommittee met for about one month to hammer out what changes could be made that would bring the zoning more in line with the Plan. Beyond reducing the total number of bedrooms, we worked hard on finding ways to get a diversity of housing in Varna. That's really what the Plan is calling for. The recommendations have now gone to the Town Board for their review.

C. Anderson – We met in Varna for the subcommittee and several residents of Varna attended and gave their input.

Dryden Rail Trail – B. Beck

- Still working on getting easements needed to complete the trail
- Project to renovate the two trestles at the Game Farm crossing Cascadilla Creek:
    - After more than three months of our plan being sent to Albany for DEC engineer review, they have finally gotten back to us and said they think the trestles should be torn out and two prefab pedestrian bridges at a cost of $50,000 each plus abutments be installed. This would bring the cost up to around $300,000, which is more than the $30,000 we had planned on investing to make the trestles functional.
    - Working on getting our engineers to talk to the DEC engineers to see if we can get this worked out.

  - TG Miller did a study and tested the structure and wrote up a detailed report showing where the individual weak places were, a precise diagram of all the components.
- There will soon be new railings on the FH Fox bridge in Varna. DPW needs to do welding on the new railings so traffic will need to be diverted while they complete their work. We are hopeful that the alumni of the veterinary college will follow through with their plan to support the trail/bridge.
- We will be interviewing 3 engineering firms next week for the Route 13 bridge construction project. There were 6 applicants originally, and we narrowed it down to 3. We will choose and hire 1 company to proceed after the interviews are completed.
- Discussion ensued regarding the speed limit on Game Farm Road, engineering study, agreement between Ithaca and Dryden; we need to get approval of our plan from the Town of Ithaca.

Environmental Management Council (EMC) – D. Weinstein
The draft report of the valuation of the County forests is now being reviewed by the Unique Natural Areas Committee of the EMC. There will be a public meeting to introduce the report on December 18th from 4:00-5:30 p.m. in the Borg Warner room at the Tompkins County Public Library. Report won't be released to the public until after the review of the UNA Committee and the EMC.

Old Business

Ditch Management – G. Dodici
He is still waiting for a response from R. Schneider, so there is nothing new to report at this point. D. Weinstein sees Ms. Schneider on a regular basis so he will bring this up to her. Further discussion is tabled until the next meeting.

M. Richmond stated there are some logical places to do the experimental "show and tell" of what can be done and in what ditches. The Ellis Hollow area would be a good place for this experiment.

C. Anderson -Walker Road was just ditched between Bradshaw & Simms Hill Road – a lot of water is flowing through there. There are farm fields/wetlands on both sides. M. Richmond offered to contact R. Schneider.

Restrictive Covenant Rule as it relates to protection of open space - C. Anderson
- It is C. Anderson's understanding that the Town Board said yes to the moratorium, but there must be a public hearing before it can be effective. J. Kiefer sent a letter to the town attorney and to a Department of State attorney and asked both attorneys for some guidance on this issue. The Department of State attorney responded that she believes the Town would have jurisdiction over conservation easements, but it is not clear.
- C. Anderson brought B. Beck up to date regarding the problem at the Bluebird Subdivision.
- D. Weinstein stated the problem is it wasn't caught by our planning department when they approved the building. It is clearly on the plat, but we need to get assurances from our lawyer that what is on the plat is defensible in court. Our lawyer has not yet agreed to that.
- C. Anderson – They have thrown around ideas to keep this from happening in the future.
  1) Surveying the foundation before the footings are even dug.
  2) Charge additional fees for these type of subdivisions as they are costing the town more money. You would then have more resources to make sure this kind of thing doesn't happen again.

3) Code enforcement is looking at the zoning law and that is why the applicant was given a permit. They gave them an occupancy permit based on the zoning law. There is no one checking the plat. It is not the responsibility of the planning department, it's the responsibility of the homeowners' association or the builder. Our planning department people are not surveyors.
4) Suggestion was made that requirements should be changed to make it a requirement to have the building staked by a surveyor before a building permit will be issued.
5) Neighbors in the subdivision are fine with where the house in question was built.
6) A request has been made to the Town Board to set up a fund for litigation of violations to easement restrictions.

New Business

Riparian Workshop – P. Davies
He attended a Cooperative Extension riparian buffer workshop on November 21st. It was very interesting. He will scan and send it to everyone for their information.

- It is possible to have a local ordinance protecting streams by mandating a buffer along the streams.
- The experts stated that having trees along the edges of streams is much better in protecting them from erosion and nutrient runoff, far more effective than grass.
- There were some very nice talks about what they are doing to remediate this by planting trees and how to do it.
- Native vegetation that could be used.
- Stream buffer ordinances are in operation for the Town of Ithaca and (he believes) the Town of Ulysses.
- This is something we should investigate next year. If it can be done, it is rather useful. What it essentially does is encourage farmers whose fields came right down to the edge of a stream to do these plantings and there are grants available for partial financing. This is very valuable in decreasing the flow of nutrients into streams, which ultimately end up in the lakes and this is one of the things that are causing the lake blooms.
- Having the tree buffers along the edge pulls out a lot of the nutrients before they flow into the waterways.

A lot of this information is available online. I would suggest this would be something useful to investigate in the coming year, particularly in association with the ditch stormwater management.

D. Weinstein inquired if there is a template ordinance that can be used for guidance. P. Davies stated he has one that he will copy and send.

D. Weinstein mentioned that the recommended new zoning for Varna is to put a 100' buffer on the flood plain along Fall Creek so you cannot build within that buffer at all.

Trinitas Housing Development in Varna - SEQR
P. Davies – Stated they have now put out a State Environmental Quality Review.

D. Weinstein advised to disregard as Trinitas has come back and stated they are going to downsize the project, although at this point it is unknown by how many units. The SEQR will have to be redone at that point.

Board reviewed the attached Trinitas documents/information. D. Weinstein suggested the board be prepared to review the new plan when it arrives, as the expertise around this table will be useful.

P. Davies pointed out how vague the documents are, and C. Anderson suggested they take the maps out, look at the plat, the site plans, get the full drawings to understand what they are looking at. You need to compare what they said with the pond that is there.

P. Davies suggested that members of the board get together when the new drawings are in and spend a couple of hours to look at and compare the documents. As soon as the new version comes in, D. Weinstein will immediately contact P. Davies so arrangements can be made for a sub-committee to get together to review it all. (This would need proper notice.)

Volunteers for subcommittee: B. Beck, N. Munkenbeck (possibly), C. Schutt, J. Grace, P. Davies.

Action items for 2020

- Ditch management
- Stream buffers
- Fill ordinance
- Stormwater law- soil disturbance with no silt fences or anything else being put out. Pressure needs to be put on the planning department to make sure these types of things are being done.
- Water management
- Deer management
- April 2018, we passed a resolution asking the Town Board to develop a preservation (farmlands, natural areas, open space) fund somehow. This would be a way for the Town to accept specified donations.

New Chair for 2020

P. Davies made a motion to appoint G. Dodici as the Conservation Board Chair effective January 1, 2020, seconded by C. Schutt and unanimously approved.

P. Davies was thanked for his years of service being Chair.

There will not be a meeting in December. A social gathering for the board will be held – date and time will be emailed later.

There being no further business, under motion made by M. Richmond, seconded by C. Schutt, the meeting was adjourned at 9:02 p.m.

Respectfully submitted,

Chrystle Terwilliger
Deputy Town Clerk

Stream Buffer Planting Guide

Tompkins County Stream Buffer Management

Enhancing Water Resources in Tompkins County: Stream Buffer Benefits

Introduction

Cayuga Lake, along with many streams, ponds, and wetlands provide Tompkins County with a beautiful environment. Each of these waterways has its own ecological requirements in order to be sustainable over a long period of time. To meet the requisite conditions necessary for ecological development, this booklet will outline vegetation appropriate for riparian areas* and stream buffers.

When designed well, the areas along streams, lakes and rivers are important in maintaining the quality of the water, stabilizing streams, and minimizing flood damage. The condition of birds and animal habitats is enhanced by riparian buffers which, in turn, stimulates ecological diversity.

"If properly designed and maintained, riparian buffers can provide a variety of benefits, from water quality protection to ecosystem maintenance to recreation and education to flood damage prevention" (Davis and Hitchings, 2000).

Consideration of the impact of people upon such environments is primary to protecting the waterways, and surrounding environments, as it ensures riparian buffers can continue to provide ecosystem benefits. Protecting and restoring streamside areas also enables streams "to re-cover dynamic equilibrium and function at a self-sustaining level." (Federal Interagency Stream Restoration Working Group, 1998).

As communities recognize the benefits of protecting and restoring the various waterways, and their buffers, developing these areas becomes an important ecological goal. This vegetation guide is intended to educate community leaders and landowners about riparian and stream buffers, and provide a scientific foundation for implementing riparian and stream buffers in Tompkins County. Although the term "riparian buffer" includes a variety of buffer types, this document specifically discusses stream buffers, which are considered by many researchers to be the most effective.

For more information on why and how to protect riparian areas, please visit
www.tompkins-co.org/planning "water resources" section.

**Riparian areas, the areas immediately adjacent to flowing waters such as streams, lakes, shorelines, and wetlands, provide a transition between aquatic and terrestrial ecosystems (Environmental Law Institute 2003).*

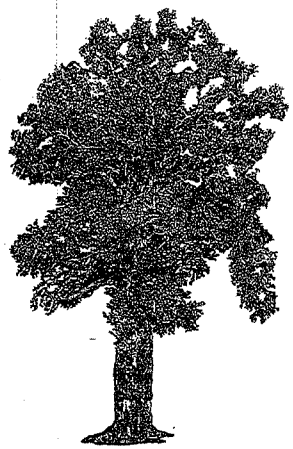
The Tompkins County Stream Corridor Protection and Management Program is a comprehensive, coordinated stream buffer program with goals to protect water quality and promote wildlife habitat throughout Tompkins County. The program seeks to advance these goals by protecting existing healthy, stream buffers in addition to establishing new ones. The program features both regulatory and non-regulatory protection tools for landowners, local governments and other conservation oriented organizations. This stream buffer planting guide is one such tool. The intention is that this planting guide is to assist in visualizing and implementing healthy stream buffers. The guide provides details on specific species appropriate for buffer areas and outlines how they should be planted. For more information on other tools available to protect local streams please visit www.tompkins-co.org/planning and see the "water resources" section or call the Tompkins County Planning Department 607-274-5560.

Tree Descriptions

Recommended Tree Species Include

Sycamore
(Platanus occidentalis):

Characteristics:
Height: 75'-90' Width: 60'-70'
Growing Conditions: Full sunlight to partial shade, moderately dry to wet conditions, prefers well-drained soil, can sustain droughts.
Rate of Growth: Fast



Description: The most striking feature of the Sycamore tree is its mottled appearance. It has multi-colored bark that dramatically peels off in large sheets. Frequently, the Sycamore tree divides into several secondary trunks, near the ground, but it has few branches leading to the canopy. The trunks of large trees are often hollow. Some of our ancestors lived in hollow Sycamore trees while building their cabins. Another unusual feature is that the leaves grow sticky, green buds. The Sycamore also grows fuzzy seed balls, about one inch in diameter, that remain intact through most of the winter.

Benefits: The growth structure of the Sycamore supports many types of birds, animals, and fish. Its massive roots substantially reduces stream bank erosion and encourages the development of deep pools of water. The stream's habitat and water quality are improved and provide protection to wildlife during flooding conditions. Many aquatic species (fish, mussels, and insects) benefit from the improved water quality. In turn, smallmouth bass, and other types of sport fish, increase their numbers provides better fishing.

The Sycamore's characteristics of height, open canopy, strong limbs and numerous cavities provide nesting sites that are preferred by great blue herons, wood ducks, and bald eagles. Purple finches, chickadees, juncos, muskrats, beavers, and squirrels also are attracted to this tree and they feed on the seeds. Sycamores can grow rapidly – frequently at the rate of 6 feet a year – and they can live for hundreds of years.

Silver Maple
(Acer saccharinum):

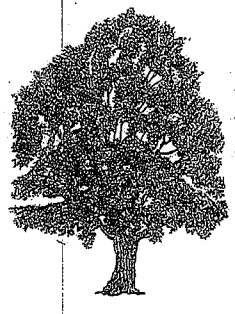
Characteristics:
Height: 75'-100' Width: 75'-100'
Growing Conditions: Full sunlight to partial shade, can withstand drought or wet conditions. It is best to plant in lowland areas, near water and away from any structure as the roots are extensive and they could damage a foundation.
Rate of Growth: Fast

Description: The Silver Maple is also called the River Maple because it is naturally found next to streams and rivers. The branches emerge out of a short, rotund trunk dividing into several large branches, to create a large canopy with gracfully shaped leaves. The Silver Maple flowers in early spring, well before the leaves emerge The tops of the leaves are light green and a pale, silvery white underneath. Fall colors range from yellow with a trace of red to yellow-brown. It is an extremely easy tree to propagate from seed or transplants.

Benefits: Squirrels, chipmunks, and song birds, along with wild turkeys and ducks, eat Silver Maple seeds. Silver Maple sap can be used to make both maple sugar and a light syrup The flavor is good, but not as pronounced as that of the Sugar Maple. The Silver Maple is a fine shade tree due to its size and it has been known to live up to, and beyond, 130 years.

Swamp White Oak (Quercus bicolor):

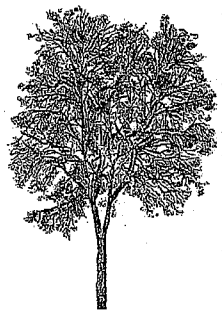
Characteristics:
Height: 75' - 100' Width: 50' - 75'
Growing Conditions: Sun to partial shade, prefers low moist areas, adapts to a variety of acidic soil types, good resistance to damage by wind and ice.
Rate of Growth: Medium - fast (for an oak)



Description: The Swamp White Oak has a single trunk with a broad crown. The dark, shiny green leaves create a distinctive pattern that radiates from the center of the leaf cluster. Fall colors vary from golden yellow, to brown, to reddish purple. Bloom period is in early spring with one inch acorns produced during the summer months. The Swamp White Oak grows an average of 24' per year and it has the potential to live 300 to 350 years. This tree is sensitive to root disturbance so it should initially be planted at the permanent site and be mulched.
Benefits: Quercus means "fine tree;" bicolor refers to the colors of the leaves: dark green on top and silverly white on the bottom. Oaks are indeed "fine trees." So much so that in November 2004, Congress passed legislation designating the oak as our national tree. The Swamp White Oak attracts many types of animals and birds. In the fall, deer, wild turkeys, black bear, fox, gray squirrels, and particularly wood ducks, seek out the mature acorns for food. Acorns contain significant protein, carbohydrates and fats, as well as the minerals calcium, phosphorus and potassium, and the vitamin niacin. Acorns have been a traditional food of many Native Americans. The acorn can be converted into flour, made into mush, or the meats can be added to other foods such as muffins. Acorns can be substituted for chickpeas, nuts, peanuts or olives in many recipes. Native Americans, in this area of the country, made oil from acorns and used it as a salve for burns and injuries. Brooms have been made from Swamp Oak by selecting very thin twigs with at least three leaves attached. The twigs should be long enough to form a handle when bundled.

Black Cherry (Prunus serotina):

Characteristics:
Height: 60' - 90' Width: 35' - 50'
Growing Conditions: Full sun to part shade, prefers deep, moist, fertile soil, can withstand salt, wet conditions, and drought.
Rate of Growth: Fast



Description: The Black Cherry has a single trunk with a broad crown. When grown with enough space, the tree is oval shaped, branches spreading until they hang down loosely. Leaves are oblong and shiny with a pointed tip. After the leaves have come out, white flowers bloom in late April or early May. The cherries ripen from August through October. It's an adaptable tree which will grow in old fields, along streams, or in existing forests. It is a shade tolerant tree but it will grow rapidly, and become larger than usual, in open spaces. Some trees have grown to 125 feet high and four feet in diameter. The Black Cherry has been known to live up to 258 years.
Benefits: The black cherries are especially prized by black bears (numerous pits have been found in their scat). Cubs learn to climb when they follow their mothers up the tree to get the cherries. Wild turkeys, ruffed grouse, raccoons, fox, and non-game birds also eat black cherries. Porcupines, white-tailed deer, rabbits, and hare feed on Black Cherry seedlings. Although some young trees are eaten, because birds and animals spread the cherry pits, one tree can produce numerous seedlings. People eat black cherries raw or use them to make a variety of foods. It should be noted that some parts of the Black Cherry tree are poisonous to people and these parts should NOT be ingested. The seed inside the pit is poisonous as are wilted leaves, twigs and stems. On the other hand, other parts of the Black Cherry tree have traditionally been used medicinally.

Red Oak
(Quercus rubra):

Characteristics:
Height: 50' - 80' Width: 50' - 70'
Growing Conditions: Sun to full sunlight, can withstand drought or wet conditions, prefers well-drained stream borders, must have acidic soil, withstands cold and pollution.
Rate of Growth: Moderate to fast growing, up to two vertical feet per year.

Description: The Red Oak is set apart from other oaks by a shininess on the ridges of the bark extending from the top of the tree all the way to the bottom of the trunk. The size of the trunk depends on whether the Red Oak grows in a forest (close to other trees) or in the open. Trees growing in open spaces tend to have thicker, shorter trunks while the trees in the forest are taller with thinner trunks. The dark green leaves of summer turn to a brilliant red, or rich brown, in the fall. The acorns ripen in the spring of the second year because they require 18 months to mature. This oak transplants easily and it is hardy in most conditions.
Benefits: The Red Oak is popular with a wide variety of wildlife. It is favored, for its acorns, by the wild turkey, woodpecker, blue jay, white-breasted nuthatch, sapsucker, quail, ruffed grouse, ring-necked pheasant, eastern crow, northern flicker, blue jay, brown thrasher, starling, chickadee, white-breasted nuthatch, and other songbirds. The acorns also attract the mallard duck, American pintail duck, green-winged teal duck, white-tailed deer, cottontail rabbit, white-footed mice, eastern chipmunk, fox squirrel, gray squirrel, red squirrel, hummingbird, and butterflies. Trilliums often grow under the Red Oak. This tree is fast growing, easy to transplant, tolerant of varied conditions, has beautiful colors, is a good shade tree, and it is effective in rehabilitating areas after floods or where revegetation is needed. Its wood is valued for its strength so it is used for building houses and furniture.

Pin Oak
(Quercus palustris):

Characteristics:
Height: 75'-100' Width: 40'
Growing Conditions: Full sunlight to partial shade, performs best in full sun in continuously moist to wet, deep, very acidic soils; it can adapt to dry soils, prefers to be transplanted in spring. Note: The Pin Oak does not adapt easily to higher ground. It should only be planted near stream areas.
Rate of Growth: Fast: 12' - 15' in 5 - 7 years if planted in acidic soil

Description: The Pin Oak's appearance is distinctive because the upper branches ascend, the middle branches are horizontal, and the lower branches are down swept. The branch arrangement, along with the dense foliage, forms a symmetrical, pyramidal shape. It has medium sized, green leaves that becomes reddish-brown to crimson in the fall. Another distinctive feature of the Pin Oak is that it retains most of its leaves during the winter and then drops them in the spring. The acorns ripen in the spring of the second year because they require 18 months to mature. Strong, robust trees grow from the acorns found near the Pin Oak parent tree.
Benefits: The benefits of the Pin Oak are similar to the Red Oak and the White Swamp Oak. In addition, all three of these trees support migration of many birds such as hawks, owls, hummingbirds, warblers and finches by providing a retreat from the stresses and hazards of migration.. The Pin Oak, in particular, offers dense foliage for cover and by retaining its twigs, attracts insects that the migrating birds feed upon. The oaks in riparian buffer areas create optimum conditions for migrating birds by providing the combination of food, shelter, cooler water and air temperatures. The water is cleaner because the buffer assists in filtering out sediments and pollutants from runoff. Animals such as deer, fox, raccoon, quail and wild turkey are also supported by the Pin Oak's acorns and fshelter within the area of the tree.

Eastern Cottonwood (Populus deltoides):

Characteristics:
Height: 80' - 100' **Width:** 60' - 70'
Growing Conditions: Sun to full sun, prefers wet soils, transplants easily, can tolerate a wide variety of conditions, including high pH, pollution and salt. Seedlings will not grow in shade and should be placed in sunny locations. Planting close to buildings is discouraged because it may result in damaged foundations, walls, and pipes due to the extensive roots.
Rate of Growth: Fast: 1.5' - 3' per year

Description: Large, deciduous cottonwoods are pyramidal during the early stage of development. As it grows, large spreading branches expand to a broad and open growth. It is one of the largest North American hardwood trees. The bark is gray, with pronounced ridges and deep fissures. Foliage is light to medium green, turning yellow in the fall. Tufted seeds, which have a "cotton-like" look, are easy to recognize as they float easily through the air.

Benefits: The Eastern Cottonwood usually lives 70 - 100 years; it's possible for them to live 200 - 400 years if the growing environment is good. A Cottonwood in Balmville, New York is reputed to be the oldest of the species in the Eastern United States. Core samples of the tree has dated its growth to the year 1699. It is 25 feet in circumference at its base and the tree was once 110 feet high before being damaged from Hurricane Floyd in 1999. Now it is 83 feet in height.

Cottonwood trees stabilize the soil when soil and moisture conditions are sufficient. Frequently these trees are found along waterways. Capable of growing in mercury-contaminated soils, Cottonwoods transform contaminants into substances that are less hazardous to humans, animals, or other plants.

The buds and fruits are food sources for spring birds, quail, and rabbits. Deer feed on the young bark, foliage and buds. Beavers use saplings for food and dam construction.

Shrub Descriptions

Recommended Shrub Species Include

Silky Dogwood (Cornus amomum):

Characteristics:
Height: 6'-10' Width: 6'-10'
Growing Conditions: Full sun to partial shade, prefers moist, fertile soil (can be used on wet sites), easily transplanted. Easy to propagate from seeds or cuttings.
Rate of Growth: Fast

Description: The Silky Dogwood is a medium size, multi-stemmed shrub with dome-shaped clusters of creamy white flowers that bloom in late spring. It has blue berries later in the season. Gray-green leaves and the bush branches become an attractive red-purple in fall.
Benefits: The Silky Dogwood is a good source of food, protective cover for wildlife, and provides nesting sites. Its conspicuous flowers attract bees, butterflies and birds.

Arrowwood Viburnum (Viburnum dentatum):

Characteristics:
Height: 9' Width: 9'
Growing Conditions: Partial shade to full sun. Prefers moist, well-drained soils but can adapt to dry, poor soils. This shrub can also sustain in urban settings and cold conditions.

Rate of Growth: Medium
Description: The Arrowwood is an upright, multi-stemmed, deciduous shrub with 4" clusters of white flowers blooming in the spring and producing blue-black berries. The shrub has glossy, dark green leaves which turn into beautiful yellows, oranges or red in the fall. The berries mature in August and sometimes continue to produce into October.
Benefits: The Arrowwood's fragrant flowers provide nectar for butterflies and other pollinators. It's also the larval food source for the Azure Butterfly. The shrub provides good nesting sites and cover for birds.

Elderberry (Sambucus canadensis):

Characteristics:
Height: 6' - 12' Width: 6' - 12'
Growing Conditions: Full sun to partial shade, tolerant of a wide range of soil moisture fluctuations from drought resistant to wet.
Rate of Growth: Fast

Description: The Elderberry is a multi-stemmed shrub with large clusters of small, fragrant white flowers that appear in spring. Clusters of dark purple to black berries form in late summer to fall.
Benefits: The Elderberry is an outstanding source of nectar for pollinators and food for birds and other wildlife. It also provides shelter for birds and insects. The flowers are used for mild tea and the berries are prized by people for wine and jam. Various parts of the Elderberry plant have traditionally been used for medicinal reasons.

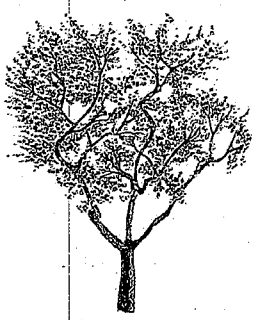
Gray Dogwood (Cornus racemosa/paniculata):

Characteristics:
Height: 6'-12' Width: 6'-12'
Growing Conditions: Sun to partial shade, tolerant of a wide range of soil moisture fluctuations from drought resistant to wet.
Rate of Growth: Slow to medium
Description: The Gray Dogwood has dome-shaped clusters of white flowers that bloom in late spring. Clusters of small white berries replace the flowers. Gray-green leaves turn to a red-purple in fall.

Benefits: The Gray Dogwood is a good source of food, provides protective cover for wildlife, and a nesting site for birds and butterflies.

Eastern Redbud (Cercis canadensis):

Characteristics:
Height: 20' - 35' Width: 20' - 35'
Growing Conditions: Full sun to partial shade, tolerant of a wide range of soil moisture fluctuations: drought resistant to wet. Transplanting should be done in spring or fall.
Rate of Growth: Slow to Medium



Description: In early spring, pinkish-lavender flowers open slowly, becoming a vibrant, dramatic display. The foliage, appears after the flowers have bloomed, first as bronzed to medium green then changing to dark green. The Redbud usually branches low on the trunk and it will become multi-trunked If the branches are not pruned. This will result in a graceful arrangement of branches containing heart-shaped leaves. Seed pods appear in the fall as the leaves turn yellow.
Benefits: The Redbud is a source of nectar for pollinators and food for birds. This tree is part of the Pea family and Native Americans have lightly roasted the edible flowers. These trees can form an attractive shrub border. Frequently the border occurs naturally on woodland edges.

Nannyberry (Viburnum lentago):

Characteristics:
Height: 20' - 35' Width: 10' - 20'
Growing Conditions: Full sun to partial shade, tolerant of a wide range of soil moisture fluctuations from drought resistant to moist soil.
Rate of Growth: Medium to fast

Description: A multi-stemmed shrub (that can be trained into a tree), the size of the Nannyberry can be large to extra large. It is part of the Honeysuckle Family with white flower heads and medium to dark green leaves in early May. In the fall, the foliage becomes a mixture of faded shades of green, purple, red, and yellow. Small clusters of berries, in shades of light green, pale yellow, and pinkish-red, appear from August through December. Selective pruning, if desired, should be done in the winter. An unusual feature of the wood is that it smells like wet goat so it is not harvested for commercial use. Female goats have been referred to as "nannies" which may have been one influence for the name of this strange smelling bush.
The Nannyberry is moderately susceptible to damage by the viburnum leaf beetle. By planting single Nannyberry shrubs among other species, rather than in groups, the beetle problem is less likely to have a heavy impact.
Benefits: Nannyberry is an easy-to-grow, low-care native shrub. Native to Eastern North America, these scrubs provide cover and the berries are a source for food for birds in the fall.

Native Plant Descriptions

Recommended Grass, Herbs and Flowering Plants Include

Little Bluestem (Andropogon scoparius):

Characteristics:
Height: Mature height is over 3'
Growing Conditions: A perennial, Little Bluestem prefers full sun, excessive moist, fertile soil that is well-drained. Control of competing plants is necessary when first establishing Little Bluestem plants.
Rate of Growth: Moderate but it has a long life span compare to some other grass species.

Description: New shoots have a blue tint in spring and early summer. In the fall, colors turn to a redish shade which is frequently retained throughout the winter months. Flowers bloom in late July through September.
Benefits: A good forage grass, it supplies both domestic and wild animals with food when the plant is very young and green. It attracts a variety of birds, butterflies and deer. The grass also provides effective erosion control.

Riverbank Wild Ryegrass (Elymus riparius):

Characteristics:
Height: 2' - 4.5'
Growing Conditions: Requires moist soil with high water availability. Adapts to a variety of soil types.
Rate of Growth: Moderate

Description: A native cool-season, bunch grass. Strong seedlings are shade tolerant. Riverbank Wild Ryegrass is not drought tolerant.
Benefits: Essential component of stream bank rehabilitation. Supplies sparrows, finches, and small mammals with food. Seed heads are available over winter for food.

Virginia Wild Ryegrass (Elymus virginicus):

Characteristics:
Height: 2½' – 4'
Growing Conditions: Virginia Wild Ryegrass prefers full sun to light shade; prefers high fertility, moist, heavy soil texture. Best established from seed.
Rate of Growth: Moderate

Description: A native, perennial, cool-season, bunchgrass that grows from May through September. Light to medium green spikes have rigid, hollow shafts with floppy blades emerging along the shaft.
Benefits: It supplies forage for birds and small mammals and it is also good grazing for livestock. Canadian Geese feed on the foliage while seed heads are sometimes eaten by ducks. A variety of wildlife use Virginia Wild Ryegrass for denning and nesting material. Attracts butterflies.

Blue Vervain (Verbena hastata):

Characteristics:
Height: 2'- 6' Width: 1' - 2.5'
Growing Conditions: Full to partial sunlight with fertile, wet soil. Blue Vervain tolerates temporary standing water. It easily adapts to wetlands. During favorable growing conditions, each spike will continue to grow, producing new flowers.
Rate of Growth: Medium

Description: An attractive perennial wild flower, with very small, blue or violet flowers on numerous spikes, Blooming period lasts from July to early September in central New York.
Benefits: Attracts many kinds of long-tongued and short-tongued bees; some bees gather nectar while others collect pollen. Wasps, moths, butterflies, and hummingbirds are also attracted to this plant. Various songbirds eat the seeds; rabbits may eat the foliage when plants are young. Historically, it has been used as an herb and valued for its medicinal qualities.

Switchgrass (Panicum virgatum):

Characteristics:
Height: Mature height 6'
Growing Conditions: Full sun to partial shade, moist to dry, sandy soils. Switchgrass should be planted in the spring after the soil is warm. It has drought and flooding tolerance.
Rate of Growth: Rapid

Description: A warm season, perennial and self-seeding crop, Switchgrass can take up to three years to reach its full production potential. However, Switchgrass can survive for ten years or longer. It will grow in many weather conditions, soil types, and land conditions.
Benefits: The roots of Switchgrass are about as deep as the plant is tall, which makes it ideal for erosion control. Pheasant, quail, grouse, wild turkey, and song birds use Switchgrass for its plentiful small seeds and tall cover habitat. Switchgrass has become a bioenergy crop as it can be converted to pellets for heating.

Ox Eye Flower (Heliopsis helianthoides):

Characteristics:
Height: 3' to 6' Width: 2' to 4'
Growing Conditions: Full sun to partial sun, dry to medium moist soils, prefers well drained soils but can tolerate dry poor soils. Blooms summer through fall.
Rate of Growth: Medium

Description: Double, daisy-like flowers, two to three inches in diameter, yellow-orange, on stiff stems with glossy, deep green foliage.
Benefits: Ox Eye flowers provide nectar for butterflies and other pollinators. Seeds can be eaten by songbirds during the winter. Attracts hummingbirds.

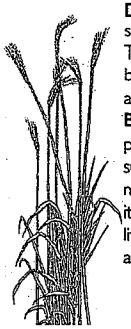
Wild Bergamont (Monarda fistulosa):

Characteristics:
Height: 2' - 3'
Growing Conditions: Prefers sun but it can tolerate partial shade. Thrives in a wide range of soils; it prefers moist soil but is fairly drought resistant.
Rate of Growth: Fast
Description: Perennial, a part of the Mint family. Flowers cluster toward the end of branches with about 20-50 flowers per plant. Blooms July through September. Brilliant flowers that range from light pink to very bright magenta; has pleasantly fragrant, gray-green foliage.

Benefits: Considered an herb, Bergamont has been used as a tea. Attracts hummingbirds, butterflies, and bees.

Canada Wild Ryegrass (Elymus canadensis):

Characteristics:
Height: 2'-4'
Growing Conditions: Prefers sun but it can tolerate partial shade. Growth better in moist soil but Canada Wild Ryegrass is fairly drought resistant.
Rate of Growth: Fast



Description: Stems can be 2' - 4' high, supporting spike-shaped seed heads. The seed heads cause the stems to bend and droop. It has distinct flowers and interesting foliage.
Benefits: Canada Wild Ryegrass provides nesting material and its seeds supply food for birds and small mammals. The grass attracts butterflies, it is highly deer resistant, and it requires little to no maintenance. Cut seed stalks are used in dried flower arrangements.

Rough Dropseed (Sporobolus asper):

Characteristics:
Height: 2½' – 5'
Growing Conditions: Full sun, will grow in moderate moisture to dry conditions. It tolerates a variety of soils but prefers soils that are intermittently wet and dry. Plant when soil is warm in spring. Has drought tolerance.
Rate of Growth: Rate of growth varies with type of soil.

Description: Warm season, perennial, bunchgrass that flowers from August through November. Rough Dropseed is tall, often tufted at the base, sending up multiple stems from short rootstocks. Plants have light to medium green, hollow stems with medium green leaf blades along with long white hairs on the upper surface of the leaf blades.
Benefits: Animals prefer to forage this grass in the spring when blades are tender. Excellent food source for grasshoppers, which are then consumed by songbirds and gamebirds. Seeds of Rough Dropseed are eaten by some songbirds during the winter.

Black-Eyed Susan (Rudbeckia hirta):

Characteristics:
Height: 1' - 3'
Growing Conditions: Full sun, it can adapt to a variety of soils, needs average moisture.

Rate of Growth: Medium
Description: Daisy-like, golden petals with a dark brown center. Biennial, with a two-year life cycle, it grows leaves in the first season; it blooms in the second season from late July through September.
Benefits: Very easy to grow: press seeds into bare soil any time during the growing season. Attracts birds, butterflies, and bees.

Annual Ryegrass (Lolium multiflorum):

Characteristics:
Height: Mature 2' – 4'
Growing Conditions: May be sown under unfavorable wet or dry conditions. Grows under a wide range of soils and climates. Tolerant of wet soils, Annual Ryegrass adapts easily to heavy clay or silty soils and temporary flooding. Flowers May through July.
Rate of Growth: It has a vigorous rate of growth that varies with weather conditions. Seed may be planted when soil is dry and it will germinate following rain.

Description: As a winter annual grass, Annual Ryegrass seeds quickly, establishes easily, and tolerates cold. It germinates in cooler soils more easily that other grasses. It is a bunch grass, yellow-green at the base of the plant. It has long, glossy, green leaves on the top.
Benefits: Annual Ryegrass improves the fertility of the soil and reduces erosion. It alters and balances organic matter by improving the soil structure through capturing nitrogen, increasing infiltration, stabilizing aggregate soil particles, increasing the soil's capacity for holding moisture, and suppressing weeds. Annual Ryegrass accomplishes these soil property improvements in half the time of other methods or of planting other grasses. According to the Department of Agriculture, fifty percent, or more, of nutrient and pesticide runoff into water is reduced by grasses growing in the buffer area. Other grasses do need to be planted with Annual Ryegrass because it is a winter grass. If no other grasses are planted in the area, there will be no grasses present during the spring, summer, or fall.

RECOMMENDED STREAM BUFFER VEGETATION

Common Name	Scientific Name	Near Stream	Upland Area	Light Requirements	Deer Resistant*
TREES					
Black Cherry	Prunus serotina	X	X	Full Sun	
Eastern Cottonwood	Populus deloides	X	X	Full Sun	X
Silver Maple	Acer saccharinum	X		Shade Intolerant	
Swamp White Oak	Quercus bicolor	X	X	Full Sun to Partial Shade	X
Sycamore	Plantanus occidentialis	X	X	Full Sun to Partial Shade	X
SHRUBS					
Arrowwood Virurnum	Viburnum dentatum	X	X	Full Sun to Partial Shade	
Eastern Redbud	Cercis candensis	X	X	Full Sun to Partial Shade	X
Elderberry	Sambucus canadensis	X	X	Full Sun to Partial Shade	
Gray Dogwood	Cornus racemosa	X		Full Sun to Partial Shade	
Nannyberry	Viburnum lentago	X	X	Shade Tolerant	
Silky Dogwood	Cornus amomum				
GRASSES					
Annual Ryegrass	Lolium multiflorum				
Black Eyed Susan	Rudbeckia hirta		X	Full Sun	
Blue Vervain	Verbena hastata	X	X	Full Sun to Partial Sun	
Canada Wild Rye	Elymus canadensis		X	Full Sun to Partial Shade	
Little Bluestem	Andropogon scoparius	X		Full Sun	
Ox Eye Flower	Heliopsis helianthoides		X	Full Sun to Partial Sun	
Riverbank Wild Rye	Elymus riparius	X		Full Sun	
Rough Dropseed	Sporobolius asper	X	X	Sun to Partial Shade	
Switch Grass	Panicum virgatum	X	X	Full Sun to Partial Shade	
Virginia Wild Rye	Elymus virginicus	X		Full Sun to Light Shade	
Wild Bergamot	Monarda fistulosa		X	Full Sun to Partial Shade	

*Plants rarely damaged by deer

ADDITIONAL TREE SPECIES
PLANTING AREAS & LIGHT REQUIREMENTS
DEER RESISTANT SPECIES

Common Name	Scientific Name	Near Stream	Upland Area	Light Requirements	Deer Resistant*
Allegheny Serviceberry	Amelanchier laevis			Shade to Partial Shade	X
Bald Cypress	Taxodium distichum	X	X	Full Sun to Partial Shade	X
Black Oak	Quercus velutina			Full Sun to Partial Shade	X
Black Walnut	Juglans nigra	X	X	Full Sun	
Box Elder	Acer negundo	X	X	Shade Tolerant	
Buttonbush	Cephalanthus occidentalis	X		Full Sun to Partial Shade	
Bur Oak	Quercus macrocarpa	X	X	Full Sun	X
Cherry Birch	Betula lenta		X	Full Sun to Partial Shade	
Cockspur Hawthorn	Crataegus crusgalli		X	Full Sun	X
Common Ninebark	Physocarpus opulifolius	X	X	Full Sun to Partial Shade	X
Eastern Redcedar	Juniperus virginiana		X	Full Sun	X
Honeylocust	Gleditsia triacanthos	X	X	Full Sun	X
Meadowsweet	Spiraea alba	X	X	Full Sun to Partial Shade	X
Northern Bayberry	Morella pensylvanica	X	X	Full Sun to Partial Shade	
Pagoda Dogwood	Cornus alternifolia	X	X	Shade Tolerant	
Red Maple	Acer rubrum	X	X	Shade Tolerant	
Redosier Dogwood	Cornus sericea	X	X	Full Sun to Partial Shade	
Roughleaf Dogwood	Cornus drummondii	X	X		
Scarlet Oak	Quercus coccinea		X	Full Sun	X
Staghorn Sumac	Rhus typhina	X	X	Full Sun	
Sugar Maple	Acer saccharum		X	Shade Tolerant	
Sweet Gum	Liquidambar styraciflua	X	X	Full Sun	
Tamarack	Larix laricina	X	X	Full Sun	
Tuliptree	Liriodendron tulipifera	X		Full Sun to Partial Shade	X
Virginia Rose	Rosa virginiana	X	X	Full Sun to Partial Shade	
White Oak	Quercus alba		X	Full Sun	X

*Plants rarely damaged by deer

DEVELOPING A STREAM BUFFER

What's The Difference Between Healthy And Unhealthy Buffers?

"A healthy buffer has many different species of native trees, shrubs and grasses with minimal encroachment and human disturbance. Varying buffer widths correspond to different purposes in support of human needs and the ecosystem, but in general, the wider the better. Unhealthy buffers have plants with weak root systems and they will be unable to filter nutrients and release sediment runoff. Other unhealthy examples include: grass growing to the waters edge; invasive plant species, such as Japanese knotweed; grazing animals; inadequate buffer widths; hardened shorelines, and impervious surfaces, such as pavement" (Hudson River Estuary Program, NYSDEC).

1. Getting To Know The Landscape

To begin the process to plant a riparian buffer zone, it's important to become familiar with the landscape. To bring the plants and the environment together successfully, knowing many details about landscape conditions is essential. This can be done by spending time at the site, at different times of the day, and in different conditions. Site assessment tools available through Cornell Cooperative Extension can assist in this process. (www.gardening.cornell.edu)

In addition, looking around the neighborhood near your property can provide ideas about what plants have adapted well to the area. You may want to include these plants in your buffer zone. There also may be seeds or scions you could collect for planting on your site.

Next, making observations in order to know where the sun is the strongest, or weakest, what the wind is like in different areas of the site, where the soil is most fertile, and where it is not, how much space is available for the plants, and what the condition of the water is will give you information for making decisions about what other plants to select for the area.

If you haven't made observations of this type before, take time to do it over multiple visits to the site. Look around carefully but don't come to immediate conclusions. It's helpful to make a map of the area and list observations you feel are important. Taking photos can also be useful to refer to when developing a plan. You want to understand what your site offers to you and what you can bring to the site that it doesn't already have. Be aware of what limitations it may have such as a steep drop-off down to the water.

Your map should include whatever is near the area that is to be in the buffer. In addition to streams, marshes, swamps, woodlots and fields, make note of roads, buildings or other structures. Trees that you may want to keep, or ones that need to be removed, should also be indicated. A tree guide can help you identify trees if you are not familiar with the species. As many species as can be identified should be recorded.

The more time you spend there, the more you will notice how conditions alter. For example, how long does the sun shine in various parts of the site? It is necessary to have at least six hours a day of strong sunlight to be considered "Full Sun." The sun should not be blocked by foliage in order to be considered "Full Sun." Dappled sunlight usually produces lighting conditions called "Partial Sun/ Some Shade." If an area doesn't get any significant sun, it is usually "Deep Shade." Different plants require different amounts of sun and if they don't have the proper amount, they won't grow well.

Is the site flat or does it have one or more hills? Is the landscape very uneven and "rough?" The nature of the land will affect light and it will also affect how strong the wind may be. If plants are exposed to strong wind, they have more survival challenges. Weather patterns can affect the growing patterns of plants and how they will look.

The best way to have a successful buffer area is to work with nature. This means adjusting ourselves to the rhythm and characteristics of nature instead of imposing our personal ideas upon nature. By making careful observations, nature will tell us about how the plants we select may do on the site. If there are some trees already there, what is their condition? Are they strong and straight or are they weak with broken branches? Do they have a lot of insects on them? What is the condition of the leaves: is the color good or are the leaves blotchy? If a plant appears weak and in poor condition, it may be the wrong plant for the site or it may be that it's not receiving the amount of sun it needs. There may be some plants that do well on a site and some that do not. The more you notice about conditions on the site, the more it will help during the planning process.

2. Planning

Botanist Diana Beresford-Kroeger coined the word "bioplan." In creating this term, Beresford-Kroeger wanted to consider all the "connectivity of life in nature" (Beresford-Kroeger, 2004). Trees, shrubs, grasses and flowers do not passively sit on a patch of earth. They interact with the elements of nature and with all living creatures. A good bioplan will restore balance in a habitat and create health for all living parts of it. Plants can assist in cleaning the air and water and they can support wildlife and insects. In the interaction of all these things is an ongoing process of a biological system that makes healthy soil that contains a micro-system of living organisms which, in turn, makes the earth sustainable. Our job is to learn how to support and maintain the living topography. This is the goal of planning.

After gathering observations, the next step is to plan what changes will be made on the site. Think about how to use the optimal areas and how to use the less than optimal ones. Nature is not consistent and it's important to work with that in mind because diversity is one of the greatest strengths of a good ecosystem.

Compare your map and observation list to the charts that outline the characteristics of the trees, shrubs, wild grasses and flowers. What seems like it will work in what area? One of the most important considerations is whether the plants will have enough space to grow to their mature size. Some of the trees will get to be very large and they need to have the space to expand as they grow.

Based on what you know, make an initial planting map that shows the size of the mature plant and its location. If you will not be planting the entire area all at once, indicate which plants will be planted first and when the others may be planted. At that point, a visit back to the site, with the map in hand, is advisable.

Next compare your choices to what you see at the site. Do the plants and the condition of the site match up? Is there anything you hadn't considered that needs to be included in the decision process? Sometimes, after looking at the site along with the initial choices of plants, you may find that you want to get more information about the plant before investing in it and putting it on the site.

There are people you can consult with in order to decide if a plant is a good choice. There are nursery and landscape companies lists available through the Tompkins County Planning Department (607-274-5560) and Cornell Cooperative Extension (607-272-2292).

Please note: special care should be taken to avoid planting any invasive species as noted by the Tompkins County Environmental Management Council. Invasives can dominate buffer areas and choke out healthy, native vegetation. A list of invasive plants native to this area is at the following website: www.tompkins-co.org/emc/docs/13_invasive_plants_of_tompkins_county.pdf

Two basic considerations are whether your plan is biologically feasible and whether it is economically realistic. The biological feasibility depends on how carefully you have matched the conditions of the site and the selection of appropriate plants. The expenses when making changes also requires planning. You may want to develop the site over several years. Decide what is most critical and what can be accomplished in a given amount of time so that it's possible to successfully develop the buffer.

3. Site Preparation

Once the decisions have been made about the plants to use, the next step is to prepare the site. Site preparation should be completed before purchasing the plants. As carefully as you may have planned, there can be unexpected conditions that will have to be worked out before anything can be planted. For example, when digging holes for trees, there may be large rocks under the soil that will have to be removed before the tree can be planted. Or, if there was heavy rain for several days, you may discover areas that are prone to becoming overly saturated. Some plants are quite at home in that condition whereas others may not survive. Knowing where these saturated areas are can affect the decision as to what to plant there. These situations are usually not complicated but they require patience to work through.

Before embarking upon making physical change to the environment, it is recommended to consult with people knowledgeable about site preparation. Work and money have the potential of being wasted if the efforts

made are not really suitable for the site. If you choose to hire professional landscapers to do the site preparation for you, discuss with them the methods they will use and why they choose their techniques. The methods they use will have an impact on the ecosystem. Invasive techniques may cause damage; be sure whatever they choose to do is the best choice for the environment.

4. Implementing The Plan

Now that the planning and site preparation are completed, the next step is to plant the buffer zone. The following recommendations will help to ensure the success of the ecosystem.

5. Planting Trees And Shrubs

Tips to ensure
a successful planting:

WHEN: Plant when you know the plants are going to be able to easily survive transplant stress. The heat of summer is usually not a good time. Most transplanting is done in the fall and early spring when the weather is somewhat cool. Then the roots have the opportunity to grow and develop before summer. However, some trees must be planted only in the spring because they establish new roots very slowly. Check with the plant nursery before purchasing.

WHERE: Refer to the site map and observation notes that you have made. It is very important to allow enough space for the plant to expand as it grows to maturity. The mature size of the plant may be considerably larger than the young plant. Consult the plant descriptions, in this guide, for the types of plants that can fit into smaller spaces on the buffer. Plants should not be too close to buildings or power lines because they can be damaged as a result. A useful method is to use a length of rope that can form the circumference of the plant when laid upon the ground. It will be easy to see how much space the mature plant will require.

It's important to match the plant to an area that meets its water needs. Some plants can thrive in very moist or wet conditions but other plants that need dryer conditions might not survive. The advice of a professional on the types of plants and moisture conditions can be valuable in the decision making process.

Also, if there are drainage problems on the land, it would be best to consult a professional from Cornell Cooperative Extension or a landscape company. They would be able to advise you on how to change or control drainage issues.

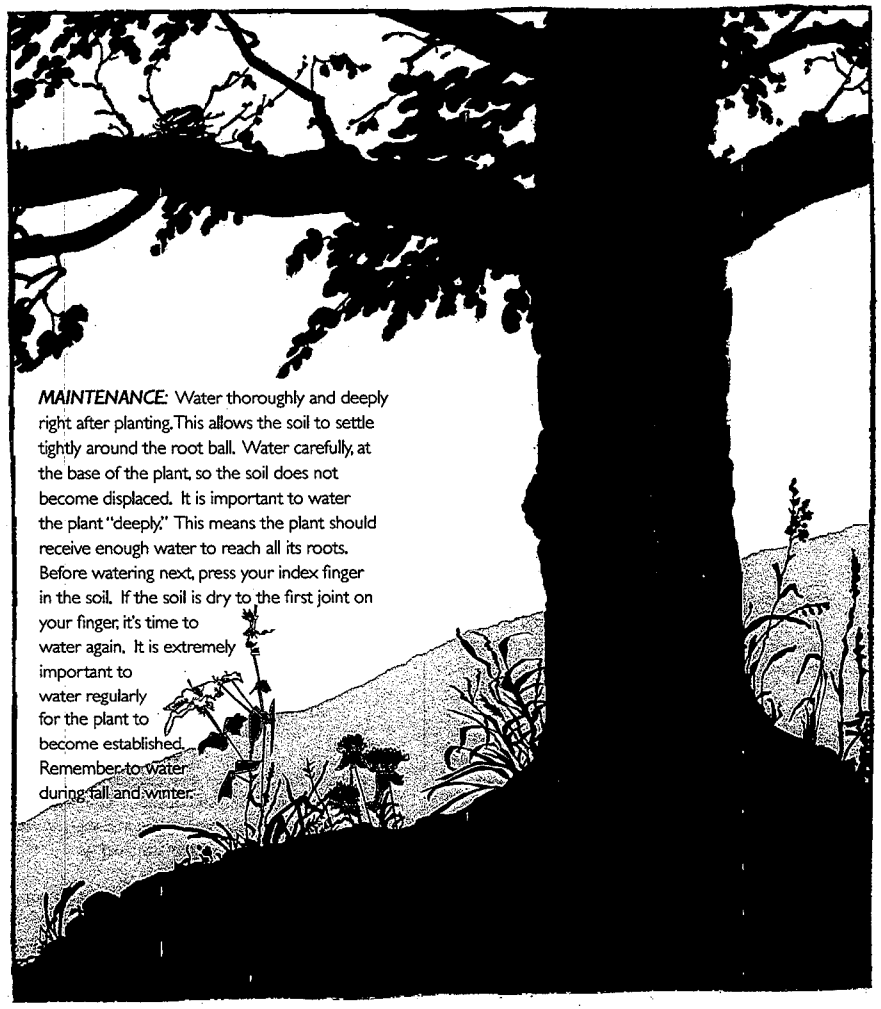
HOW: Dig the planting hole first and dig it to be twice as wide as the root ball. Remove the plant from its container by tapping or squeezing the container. Once out of the container, use a fork or other tool that is pointed to gently loosen the roots. This will help the plant's roots be able to spread so it will grow as it should. If the trees or shrubs have their root ball wrapped in burlap, they can be planted without removing the burlap. The burlap will biodegrade and compost itself into the soil.

Mix the soil from the planting hole with slow-releasing, organic fertilizers. Select one that is suitable for your particular plant. Many times fertilizing information is included with the plant. During the first year, fertilize only at the first watering.

After placing the plant in the soil, cut any strings or wire that may be tied around the trunk. Once the plant is in the hole, secure it with some soil. Then step back and check to see if the plant is standing straight, and if the base of the stalks, or trunk, will be level with the ground. The plant can be adjusted if needed by adding or subtracting soil. Keep stepping back to check to see if it's straight and level. Some plants have what is called a "crown." This type of plant must have it's crown even with the ground or it won't survive. It is typical to find a planting diagram showing crown planting information included with the plant.

Based on the vegetation in your buffer, you may want to consider controlling weeds using barriers and, also, using tree guards to protect the young tree trunks from damage caused by mice or deer.

Once the plant looks level, and the soil has been put into the hole, tamp the soil down with your foot. This will help to force air holes to compress; air that gets trapped next to the roots will dry them out and the plant may die. Tamp from the base of the plant to the edge of where the hole was. So that bad weather won't up root the planting, support tall trees using at least three wires and some stakes.



MAINTENANCE: Water thoroughly and deeply right after planting. This allows the soil to settle tightly around the root ball. Water carefully, at the base of the plant, so the soil does not become displaced. It is important to water the plant "deeply." This means the plant should receive enough water to reach all its roots. Before watering next, press your index finger in the soil. If the soil is dry to the first joint on your finger, it's time to water again. It is extremely important to water regularly for the plant to become established. Remember to water during fall and winter.

REFERENCES

Appleton, Bonnie Lee. (1993) *Rodale's Successful Organic Gardening : Trees, Shrubs and Vines.* Emmaus, PA : Rodale Press.

Beresford-Kroeger, Diana. (2004) *A Garden for Life: The Natural Approach to Designing, Planting, and Maintaining a North Temperate Garden.* The University of Michigan Press, Ann Arbor.

Environmental Law Institute. (2003) "Conservation Thresholds for Land Use Planners."

Davis, P., and Hitchings, B. (2000) "Protecting Stored Water with Riparian Buffers." Public Works. Excerpted from "An Introduction to Riparian Buffers," published by Triangle J Council of Governments.

Dirr, Michael. (1997) *Dirr's Hardy Trees and Shrubs: an illustrated encyclopedia.* Portland, Or. : Timber Press.

Federal Interagency Stream Restoration Working Group. (1998) "Stream Corridor Restoration: Principles, Processes, and Practices."

Hudson River Estuary Program, New York State Department of Environmental Conservation, *Tools for Watershed Protection: Stream Buffers.* New Paltz, New York. www.dec.ny.gov/docs/remediation_hudson_pdf/hrewfssb1.pdf

Kress, Steven, (2006) The Audubon Society Guide to Attracting Birds: Creating Natural Habitats for Properties Large and Small. Ithaca, New York: Cornell University Press.

Leopold, Donald Joseph. (2003) *Trees of New York State: native and naturalized.* Syracuse, N.Y. : Syracuse University Press.

More, David and White, John. (2002) *The Illustrated Encyclopedia of Trees.* Portland, Or. : Timber Press.

Petrides, George A. (1993) *Peterson's First Guide to Trees.* Boston : Houghton Mifflin.

Petrides, George A. (1958) *A Field Guide to Trees and Shrubs: field marks of all trees, shrubs, and woody vines that grow wild in the Northeastern and North-Central United State.* Boston, Houghton Mifflin.

Symonds, George Wellington Dillingham. (1963) *The Shrub Identification Book: the visual method for the practical identification of shrubs, including woody vines and ground covers.* New York, M. Barrows

Williams, Michael D., forester. (2007) *Identifying Trees: an all-season guide to Eastern North America.* Mechanicsburg, PA : Stackpole Books.

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Recommended Species for the Stream Buffer Planting Guide

TOMPKINS COUNTY STREAM BUFFER MANAGEMENT

NATIVE PLANTS

13 - Black Eyed Susan (Rudbeckia hirta)

14 - Wild Bergamon (Monarda fistulosa)

15 - Canada Wild Rye (Elymus canadensis)

16 - Annual Rye Mix (Lolium multiflorum)

17 - Riverbank Wild Rye (Elymus riparius)

18 - Ox Eye Flower (Heliopsis helianthoides)

19 - Rough Dropseed (Sporobolus asper)

20 - Little Bluestem (Andropogon scoparius)

21 - Blue Vervain (Verbena hastata)

22 - Virginia wild rye (Elymus virginicus)

23 - Switch Grass (Panicum virgatum)

SHRUBS

8 - Eastern Redbud (Cercis canadensis)

9 - Silky Dogwood (Cornus amomum)

10 - Elderberry (Sambucus canadensis)

11 - Gray Dogwood (Cornus racemosa/ paniculata)

12 - Arrowwood Viburnum (Viburnum dentatum)

24 - Nannyberry (Viburnum lentago)

TREES

1 - Red Oak (Quercus rubra)

2 - Eastern Cottonwood (Populus deltoides)

3 - Pin Oak (Quercus palustris)

4 - Swamp White Oak (Quercus bicolor)

5 - Sycamore (Platanus occidentalis)

6 - Silver Maple (Acer saccharinum)

7 - Black Cherry (Prunus serotina)

STREAM BUFFER PLAN at PLANTING

TOMPKINS COUNTY STREAM CORRIDOR & MANAGEMENT PROGRAM

One Inch = 50 ft.

SETBACK AREA

UPLAND AREA

NEAR STREAM

50 ft. RIPARIAN BUFFER

Black Cherry

20′

20′

Black Cherry

Eastern Redbud

Eastern Redbud

This stream plan represents a 50′ setback from top of stream bank. This is the recommended setback width for intermittent streams and on agricultural properties. Please note: a minimum 100′ setback is recommended for perennial streams. In such cases the spacing and species listed in the Upland area should be replicated for the next 50′. Native grasses should be planted, and not cut, between all trees and shrubs.

Silver Maple

10′

10′

Silver Maple

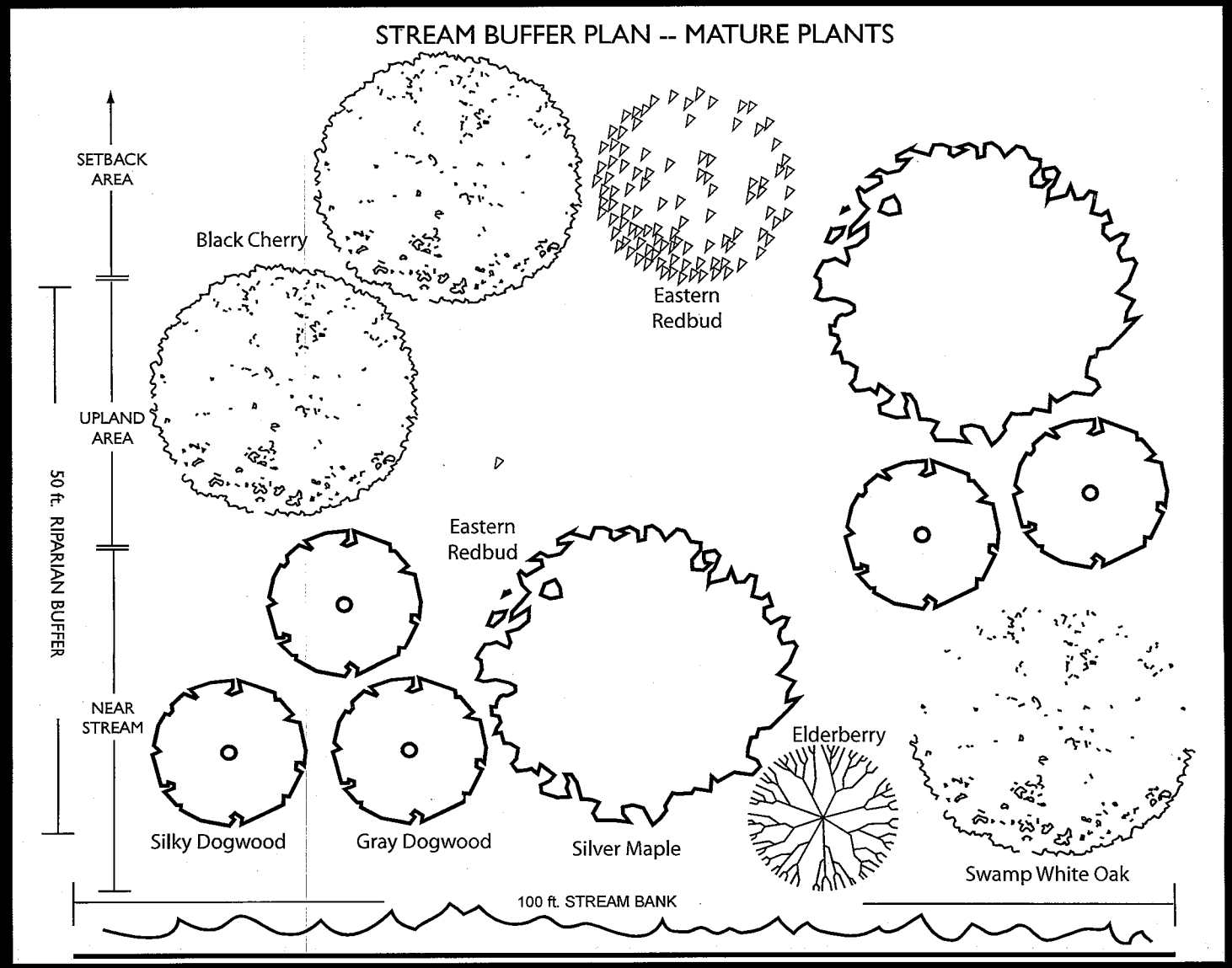
Silky Dogwood

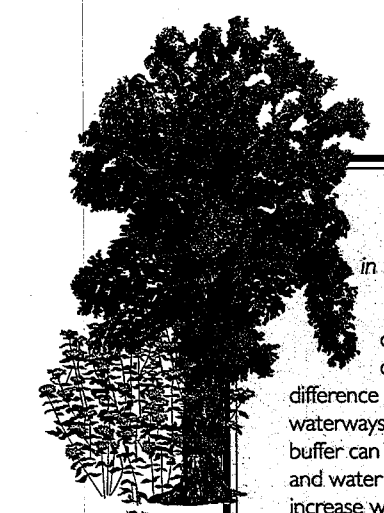
Gray Dogwood

Elderberry

Swamp White Oak

100 ft. STREAM BANK


STREAM BUFFER PLAN -- MATURE PLANTS
SETBACK AREA
UPLAND AREA
NEAR STREAM
50 ft. RIPARIAN BUFFER
Black Cherry
Eastern Redbud
Eastern Redbud
Silky Dogwood
Gray Dogwood
Silver Maple
Elderberry
Swamp White Oak
100 ft. STREAM BANK



Thank You

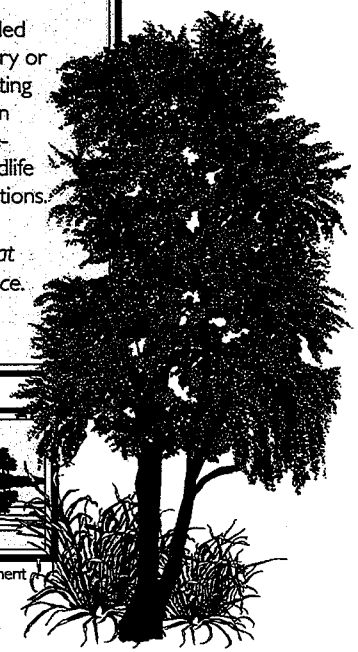
for your interest
in Stream Buffer Plantings

Planting a buffer area is one way in which you can make a lasting difference to the health of our waterways. A well-planned stream buffer can limit erosion, improve soil and water conditions as well as increase wildlife habitat.

Many of the trees recommended in this booklet can live a century or longer. By planting and protecting a healthy stream buffer, you can contribute to positive improvements in water quality and wildlife habitat that will last for generations.

You can make a difference that will have lasting significance.

Tompkins County Stream Buffer Management



Central New York Regional Planning & Development Board
126 N. Salina Street, Suite 200, Syracuse, New York 13202 • Tel. (315) 422-8276 • Fax: (315) 422-9051
Paul W. Pinckney, Chairman David V. Bottar, Executive Director

September 19, 2019

MEMORANDUM

TO: Mayors and Supervisors of Cayuga Lake Watershed Municipalities

FROM: Kathleen Bertuch, CNY RPDB Environmental Management Program Manager

RE: Municipal Water Quality Improvement Grant Project

I am writing to invite your participation in a new Cayuga Lake watershed protection project that is being conducted under the leadership of the Cayuga Lake Intermunicipal Organization with funding provided by a NYS Department of State Local Waterfront Revitalization Program grant to the Town of Ithaca.

The objective of this effort is to advance recommendations made in the 2017 Cayuga Lake Watershed Restoration and Protection Plan update by identifying water quality improvement projects for implementation. An advisory committee has been established to review and rank the suggested projects based on their feasibility and potential to improve lake and tributary water quality. The highest ranking projects will be advanced for implementation funding.

Over the next several weeks, I will reach out to a wide variety of watershed stakeholders to solicit information on specific water quality protection and restoration projects within four broad categories:

1. Stormwater Management and Erosion Control
2. Forestry and Silviculture Management
3. Wetland and Riparian Corridor Management
4. Regulatory Management

Ideally, a *minimum* of five, locally targeted project suggestions will be identified within each category. Project recommendations should be well defined in terms of location, the issue or problem being addressed, and the solution being proposed. Additional details, including any advance studies, documents or support information that may have been prepared to date will be helpful but, not necessary for submitting potential project ideas for consideration.

I encourage you to contribute to this project and to invite other elected and appointed officials and staff members from your municipality to do the same. Over the next month, I will call you with a direct invitation to discuss project ideas, or to obtain contact information should you wish to designate a point person on behalf of your municipality. In-person meetings will be set up as needed to discuss project details and compile information necessary to support a competitive and equitable assessment of all proposed projects.

Project suggestions can also be sent to me at any time at Bertuch@cnyrpdb.org. I can be reached at 315-422-8276 Ext. 1208 to discuss this project or to answer any questions you may have.

Thank you in advance for your cooperation and input.

Is your municipality looking for funding for water quality projects? Fill out this form!

The Cayuga Lake Watershed Intermunicipal Organization is asking municipalities for water quality focused project ideas that could be eligible for state grants. If your municipality has ideas for one or more projects that fit any of the categories below, we would love to hear your idea and work with you on a grant application submission in 2020.

- Wastewater Treatment Improvement
- Nonagricultural Nonpoint Source Abatement and Control
- Land Acquisition for Source Water Protection
- Salt Storage
- Aquatic Connectivity Restoration
- Municipal Separate Storm Sewer Systems (MS4)
- Nonagricultural Source Water Quality Improvement Planning
- Preparing or Updating or implementing a Local Waterfront Revitalization Program (including to mitigate future physical climate risks)
- Climate adaptation implementation projects

What type of project is being proposed? (i.e. stream restoration, local law revision, buffer installation, road ditch seeding, etc.)

_____

_____

Where is it located? (as specific as possible and include municipality)

_____

What are the issues that the project addresses? What are the current conditions and how will this project help alleviate them?

_____

_____

Has there been any work done to advance or plan this project already? If so, what?

_____

_____

Who is the contact for more information? (Name, title, email, phone number)

_____

Please leave completed forms tonight with Darby Kiley or email information to dkiley@tompkins-co.org

Tompkins County Stream Corridor Restoration & Flood Hazard Mitigation Program Overview (2011 Update)

Program Objectives

Both completed local Watershed Assessments and field-testing have identified the following important objectives for the program:

1. Ensure selected projects have been developed using a watershed/systems approach, rather than a site-by-site based approach, and consider the potential positive and negative, and downstream and upstream, impacts of the project.
2. Enhance the use of natural, sustainable flood mitigation strategies (such as floodplain protection and wetland restoration) over structural approaches, where possible, to help reduce the future cost of project maintenance and repair.
3. Ensure that selected projects support the goals identified in the *Flood Mitigation Needs Assessment Reports (Watershed Assessments), Tompkins County Multi-Jurisdictional All-Hazards Mitigation Report* (as it relates to flooding), and the *Tompkins County Comprehensive Plan.*
4. Use program funding to leverage other sources of project funding from local, regional, state and federal levels.
5. Fund projects that support a long-term approach to the management of water resources in Tompkins County.
6. Undertake projects that support attaining and sustaining high levels of surface water and groundwater quality and support the important functions of waterways and riparian areas, as habitats for aquatic and terrestrial ecosystems.

Project Prioritization

Prioritization of projects will be based on the Watershed Assessment Reports for the Six Mile Creek, Fall Creek, Salmon Creek, Cayuga Inlet and Taughannock Creek watersheds as well as other technically competent studies or publications. This list may be augmented with other priority projects in the remaining watersheds of Tompkins County.

The program is available to fund three different types of projects:

1. Stream corridor revegetation and protection
2. Stream bank stabilization which may include minor instream structures
3. Stream corridor assessments or feasibility studies for larger scale projects where implementation will be funded through outside revenue sources

Experience has shown that projects typically range from $5,000 - $10,000.

Projects will be selected based on the list of prioritized projects within prepared *Watershed Assessments* as well as other factors including:

- Total project costs
- Property owner support
- Level of benefit to residents of Tompkins County
- Ability to leverage additional funding sources

Program funds may also be used to complete additional *Watershed Assessments* throughout Tompkins County.

A technical committee will assist with final prioritization of projects (including the integration of priority projects for each assessed watershed into one priority project list) and identification of supplementary sources of funding opportunities. Committee members will include representatives of the Tompkins County Planning Department (TCPD), Tompkins County Soil and Water Conservation District (TCSWCD), Tompkins County Health Department, United States Fish and Wildlife Service, and United States Geological Survey. This committee will meet annually to help monitor and evaluate projects funded by the TCFHMP; update the list of priority projects as needed (e.g., with priority projects from other assessed watersheds or in response to extreme localized weather events that may shift the list of existing priority projects); finalize project selection; and assist with project planning.

Program Implementation

Each year, one or more projects will be identified for approval. Depending on the availability of funding, project implementation may require supplementary funding from outside sources. TCPD and TCSWCD will work cooperatively on program oversight and implementation, with TCPD providing assistance with project planning and implementation and TCSWCD providing assistance with in-field project implementation and construction. Implementation of projects, including project construction may also include municipalities, landowners, and other organizations, agencies, and contractors as needed.

Opportunities will be provided for municipalities to identify projects for the technical committee to consider in addition to projects that are already included on the list of priority projects. This will foster local involvement in the program and ensure municipal approval of the proposed project. In these cases, project approval will be based on the same criteria as projects identified in the Watershed Assessments: demonstrated need, project cost, availability of supplementary funding, consideration of downstream and upstream impacts, and consistency with program goals. A strong case will need to be made for a newly identified project to be added to the project list of priority projects based on Watershed Assessments.

Program Timeline

The program will annually follow the timeline below:

January – March – Call to municipalities for project consideration.
May-June – Technical committee meeting/site visits to prioritize prospective projects.
July - Technical Committee project recommendations made to Planning, Development and Environmental Quality (PDEQ) Committee. PDEQ discusses projects and moves resolution authorizing a contract with TCSWCD and other contractors to Full Legislature.
July – Legislature authorizes by resolution a contract with TCSWCD and other contractors.
August – Contracts drafted, circulated and finalized with TCSWCD and other contractors and work is initiated.
October – Monitoring visit to sites of past and current projects. Photo documentation post implementation is conducted.

Program Monitoring and Evaluation

Monitoring of project performance is a critical element of the Stream Corridor Restoration & Flood Hazard Mitigation Program. Projects will be monitored regularly to determine whether they are achieving the intended results. If at all possible metrics will be utilized to track the success or failure of implemented projects. Each project will be evaluated as to its likelihood for long-term effectiveness.

Every three years TCPD will work with the technical committee to submit to the Planning, Development, and Environmental Quality Committee of the Tompkins County Legislature a report on the effectiveness of the program and its individual projects.

[Name of municipality], Tompkins County, New York
Model Stream Buffer Ordinance [April 2009]

1. Title

This ordinance shall be known and may be cited as the "Stream Buffer Ordinance of the_____(jurisdiction)." [If applied to zoning – This ordinance shall amend the Zoning Ordinance of the_____(jurisdiction) to add Article (section) entitled "Stream Buffer Requirements."]

2. Purpose

The purpose of this ordinance (article) is to establish requirements for creating and maintaining buffers to protect the water quality in the streams of the_____(jurisdiction), Tompkins County. This ordinance (article) promotes the prevention of sediment, nutrient and pollutant loads from entering streams by maintaining stream buffers of at least 100 feet from the top of stream bank. Research has shown that this distance is the minimum necessary to filter nutrients and pollutants to protect water quality. Although it is not regulated in this ordinance (article), the_____(jurisdiction) strongly encourages landowners to maintain stream buffers of 330 feet from the top of stream bank, on undeveloped land where feasible, in order to protect wildlife habitat.

3. Definitions

Buffer: land on each side of a stream that shall be left vegetated to provide riparian corridor functions. Buffers are measured horizontally from the top of the stream bank in a direction directly perpendicular to the bank and in the horizontal plane.

Development: the construction, reconstruction, conversion, structural alteration, relocation, or enlargement of any structure including that intended for agricultural use; any mining excavation, landfill, or land disturbance, including grading and filling.

Intermittent Stream: surface water drainage channels with definite bed and banks in which there is not a permanent flow of water (and is represented as a dashed line on United State Geological Survey (USGS) 7.5 Minute Quadrangle maps).

Impervious Surface: any paved, hardened or structural surface including, but not limited to, buildings, dams, decks, driveways, parking areas, patios, streets, swimming pools, tennis courts, walkways, and other non-permeable structures.

Perennial Stream: a stream that flows continuously throughout the year in a natural or man-made channel (which is represented as a solid blue line on United States Geological Survey (USGS) 7.5 Minute Quadrangle maps).

Steep Slope: any slope of 15% grade or greater.

Stream: the full length and width, including the bed and banks, of any watercourse, that has a channel which periodically or continuously contains moving water. It further has a defined bed, and has banks that serve to confine water at low to moderate flows (and is represented as either a solid or dashed blue line on United States Geological Survey (USGS) 7.5 Minute Quadrangle maps). For the purpose of this ordinance, constructed drainage-ways, including water bars, swales, and roadside ditches, are not considered streams.

Stream Bank: the lateral confines of a stream which contain the normal flow of the stream.

Parcel: a designated tract or area of land established by plat, subdivision, or as otherwise permitted by law, to be separately owned, used, developed, or built upon.

Top of Stream Bank: the primary edge of the ordinary high water mark, or break in slope for a watercourse, which maintains the integrity of the watercourse.

Wetlands: lands, including submerged lands, saturated by water at a frequency and duration sufficient to support vegetation adapted for life in saturated soil conditions. For the purpose of this ordinance, wetlands are limited to those lands that are categorized as wetlands by either the New York State Department of Environmental Conservation (DEC) or the National Wetlands Inventory (NWI) or have been documented and mapped as part of an officially adopted community wetlands inventory.

4. Applicability

These requirements do not supercede or replace any greater applicable buffer requirements established under state or federal law and are applicable to all land within _____(jurisdiction). This ordinance shall apply to all proposed development.

5. Requirements

5.1. Protection Requirements for Perennial Streams

A vegetative buffer shall be required for all development activities that occur in proximity to perennial streams with additional considerations for wetlands and steep slopes. Protection shall be divided into a Riparian Buffer and a Setback Area that protects overall water quality by limiting development in accordance with the adjacent land's ability to filter sediment, nutrients and other pollutants. This protection will provide stability to the stream and stream bank. The minimum total

setback width for all perennial streams combined is 100 feet. There is no established maximum setback width.

The _____(jurisdiction) shall require the delineation of any applicable Riparian Buffer and Setback Areas on all subdivision plats, site plan applications, special permits, special approval and variance applications, building permit applications, and excavation or fill permit applications. This delineation shall be subject to review and approval by the appropriate board or officer.

Prior to any soil-disturbing activity, the Riparian Buffer and Setback Area shall be clearly delineated on site and shall be undisturbed until the project is complete.

5.1.1 Riparian Buffer: The function of the Riparian Buffer is to protect the physical and ecological integrity of the portion of the riparian corridor in closest proximity to the stream through protection and enhancement of the native vegetation. Native vegetation provides shade, leaf litter, woody debris, erosion protection, and filtering of sediment, nutrient and pollutant loads to the stream.

a. The Riparian Buffer will begin at the top of the stream bank and extend a minimum of 50 feet horizontally measured in a direction directly perpendicular to the stream bank in a horizontal plane. Should a steep slope or wetland exist within this Buffer the entirety of that area will be added to the measurement of the Riparian Buffer. This full area will utilize the restrictions accorded to the Riparian Buffer.

b. Development and use are restricted to the following, the entirety of which may not modify or interrupt more than 10% of the entire Riparian Buffer unless necessary for the protection of human health, utility usage, public infrastructure, or the betterment of the riparian corridor.

- Benches or seating;
- Implementation of educational and scientific research that does not negatively impact the native vegetation;
- Flood control, stormwater management structures, and stream bank stabilization measures approved by the Tompkins County Soil and Water Conservation District, Natural Resource Conservation Service, Army Corps of Engineering, or NYS Department of Environmental Conservation;
- Maintenance of roadways or impervious surfaces existing at the time of the adoption of this provision;
- Stream crossings necessary to access the property by driveway, transportation route, or utility line which are

designed to minimize negative impacts to the stream and Riparian Buffer;

- Public water supply intake or public wastewater outfall structures;
- Public access and public recreational facilities that must be on the water including boat ramps, docks, foot trails leading directly to the stream, fishing platforms and overlooks;
- Public sewer lines and/or other utility easements.
- Techniques to remove invasive species;
- Non-paved recreational trails no wider than 10 feet that either provide access to the stream or are part of a continuous trail system running roughly parallel to the stream;
- Temporary use of erosion control measures such as silt fencing;
- Limited tree cutting, forestry or vegetation management done in accordance with a Forest Stewardship Plan prepared by the Department of Environmental Conservation, a forester who is certified by the Society of American Foresters or such successor organization as is later created, or a Cooperating Consulting Forester with the New York State Department of Environmental Conservation. Any harvest must furthermore be done in accordance with the *New York State Forestry Best Management Practices for Water Quality – BMP Field Guide*. Tree cutting may not compromise the integrity of the stream bank or negatively impact the function of the Riparian Buffer. Tree cutting within 25 feet of the top of stream bank is prohibited. Any such activity must retain at a minimum 50% of the tree canopy in the Riparian Buffer at all times.

5.1.3. Setback Area: The function of the Setback Area is to filter sediment, nutrients and pollutants in runoff and slow the rate at which runoff enters the Riparian Buffer.

a. The Setback Area will begin at the outward edge of the Riparian Buffer and provide a minimum width of 50 feet. Should a steep slope or wetland exist within this Area the entirety of that area will be added to the measurement of the Setback Area. This full area will utilize the restrictions accorded to the Setback Area.

b. Within the Setback Area development uses are restricted to the following:
   - All development and uses permitted in the Riparian Buffer;

- Minor recreational structures and surfaces to allow passive recreation in the Setback Area such as decks, picnic tables, playground equipment, and small concrete slabs, the total area of which is not to exceed 200 square feet each and in aggregate occupy no more than 10% of the Setback Area;
- Fences, provided such structures do not impede floodwaters;
- Landscaping, mowing, decorative planting or improvements that do not encroach upon or impact the integrity of the Riparian Buffer.

5.2 Prohibited Activities

The following activities are explicitly prohibited in both the Riparian Buffer and Setback Area.

5.2.1. Storage or placement of any hazardous materials, before the following setback allotment, is prohibited. All sewage systems, both drain fields and raised systems and replacement of existing wells, must adhere to a 100-foot buffer from perennial streams. Any property that cannot accommodate such a buffer requires a variance.

5.2.2. Purposeful introduction of invasive vegetative species that reduce the persistence of local vegetation is prohibited. For a listing of invasive vegetation to avoid, refer to the Tompkins County "Environmental Management Council's Invasive Plants of Tompkins County" (1998, as revised).

5.2.3. Waste storage and disposal including but not limited to disposal and dumping of snow and ice, recyclable materials, manure, hazardous or noxious chemicals, used automobiles or appliance structures, and other abandoned materials.

5.2.4. No combination of allowed or exempt activities may compromise or alter more than 10% of the total riparian buffer and setback area that lies within a tax parcel.

5.2.5. Public water supply wells must be greater than 200 feet from top of stream bank; private wells are not allowed in the Riparian Buffer. Any property whose water supply cannot accommodate such a buffer requires a variance.

5.2.6. Mining or removal of soil, sand and gravel, and quarrying of raw materials.

5.2.7. Dredging, deepening, widening, straightening or any such altercation of the beds and banks of natural streams except where the New York State

Department of Environmental Conservation has issued a permit expressly allowing such activities on the parcel.

5.2.8. Application of herbicide, pesticides, fertilizers, or other chemicals.

5.2.9. Parking of motorized vehicles.

5.3 Protection Requirements for Intermittent Streams

For those streams classified as intermittent, only the Riparian Buffer shall apply. For an intermittent stream the buffer will begin at the top of the stream bank and extend a minimum of 50 feet horizontally measured in a direction directly perpendicular to the stream bank in a horizontal plane. All provisions applicable to the Riparian Buffers for perennial streams should apply to intermittent streams.

6. Exemptions

The following specific activities are exempt from the requirements of this ordinance.

6.1. General Exemptions

6.1.1. The ordinance shall not apply to agricultural land use activity existing as of the effective date of this ordinance.

6.2. Grandfather Provisions

6.2.1. Work consisting of the repair or maintenance of any lawful use of land that is approved for such use on or before the effective date of this ordinance.

6.3. Variance Procedures

Variances from the above buffer and setback requirements may be granted only in accordance with the following provisions. Except as provided below, the _____(appeals board) of _____ (jurisdiction) shall grant no variance from this ordinance without conducting a public hearing on the application for variance, and issue a notice of public meeting on such variance in a newspaper of general circulation in the municipality at least ten working days prior to such hearing. Such notice shall be forwarded at least ten working days in advance by a registered letter to the superintendent of highways or commissioner of public works, to the clerk of the county legislative body, and to the county planning board, if any, and appropriate state and federal agencies affected.

6.3.1. A variance shall be granted only upon a finding that a property's shape, topography or other physical conditions prevents land development unless a variance is granted, or that strict adherence to the minimal buffer and setback requirements would create extreme hardship.

6.3.2. A variance request shall include the following information in written documentation:

- A to-scale site map with stream, wetlands, slopes and other natural features locations as determined by field survey;
- Description of the topography, slopes and soil type, shape of property, natural vegetation, and other distinguishing or prohibitive physical characteristics of the property;
- The locations and footprint of all existing structures and other impervious cover on a site map, with footprint for proposed structures. This map shall include the limits of all existing and proposed land disturbance, both inside and outside the buffer and setback;
- The exact area of the affected buffer and setback, and nature of proposed changes to be made to these areas shall be accurately and clearly indicated. A calculation of the total area and length of the proposed intrusion and any pre-existing intrusions shall be included;
- A stormwater management plan given the proposed changes and intrusions;
- Documentation of supposed hardship should the buffer be maintained;
- Proposed mitigation for the intrusion.

6.3.3 The following matters will be considered in determining whether to issue a variance:

- The shape and physical characteristics of the property;
- The locations of all streams on and/or adjacent to the property;
- The location and extent of the proposed buffer or setback intrusion;
- Whether alternative designs are possible which require less intrusion;
- The water-quality impacts of the proposed variance.

7. Administration and Enforcement

7.1 This ordinance shall be administered by _____(Jurisdiction Administrator, i.e. Code Enforcement Officer) or other official as designated.

7.2 A development plan shall not be approved, and therefore a building permit shall not be issued, unless the development plan satisfies the requirements under this ordinance. The _____(jurisdiction) may deny, suspend, or revoke any development plan if the plan violates this ordinance.

7.2. The _____(jurisdiction) may cancel or revoke any approved development plan or issued building permit if it fails to maintain the requirements of this ordinance; and may take legal action to stop, revoke or cancel the approval or the building permit.

References Used for Model Ordinance Development

Anderson, P., Bradford, D., Frissell, C., Olson, D., & Welsh, H. (2007). *Biodiversity management approaches for stream-riparian areas: Perspectives for Pacific Northwest headwater forests, microclimates, and amphibians.* Forest Ecology and Management, 246, pp. 81-146.

Bren, L. (2000). A case study in the use of threshold measures of hydrologic loading in the design of stream buffer strips. Forest Ecology and Management, 132, pp. 243-257.

Enhancing Water Resources in Tompkins County: Benefits of Riparian Stream Areas and Stream Buffers: Tompkins County Planning Department, 2004. http://www.tompkins-co.org/planning/Water%20Resources/FINAL%20STREAM%20DOC.pdf

Guidance for Agency Act 250 and Section 248: Comments regarding Riparian Buffers: Vermont Agency of Natural Resources. December 9, 2005.

Markaroff, D., & Ng, R. (1995). *Schemes for implementing buffer sharing in continuous-media systems.* Information systems, 20 (6), pp. 445-464.

New York State Forestry Best Management Practices for Water Quality – BMP Field Guide - http://www.dec.ny.gov/docs/lands_forests_pdf/dlfbmpguide.pdf

Part I: A Strategic Approach to Natural Stewardship: Tompkins County Conservation Plan. Tompkins County Planning Department. 2007.

Tompkins County Conservation Plan: Section I: A strategic approach to natural resource stewardship. Tompkins County Planning Department, 2007.

Town of Ithaca Local Law No. (undecided) of 2006 as amendment to Chapter 270 of Town of Ithaca Code. *Proposed, "Zoning, to add stream setback provisions."* Reviewed copy of 9/8/06. Town Board of the Town of Ithaca, 2007.

Town of Ulysses. *Zoning Law.* Accessed February 1, 2008. Ulysses, 2005. http://www.trumansburg.ny.us/ulysses/zoning-law_08-30-05.pdf

Deed of Conservation Easement
Date

Blue are items that need to be updated prior to closing

THIS CONSERVATION EASEMENT is granted this ____ day of _____, by XXXXXXXXXXXXX ("**Grantor**") to the XXXXXXXXXXXXXX (collectively the "**Grantee**"), a New York municipal corporation having offices at XXXXXXXXXX and XXXXXXXXXXXX, respectively.

WHEREAS:

A. Grantor is the owner of certain real property (the "**Property**") consisting of XXXX acres, on # parcel located on XXXX Road in the Town of XXXXX, Tompkins County, New York, the metes and bounds of which are more fully described in the legal description of the Property, attached hereto as **Exhibit A** and shown on the Easement Survey Map, which is duly filed and referenced in an attachment known as **Exhibit B**; and

B. Grantee is a municipal corporation having the authority pursuant to New York State General Municipal Law §247 and Article 49, Title 3 of the New York Environmental Conservation Law (the "**ECL**") to acquire conservation easements; and

C. XXX Creek is a tributary to XXXX Creek, which is the largest tributary to the southern basin of Cayuga Lake, a water body that is on the New York State Department of Environmental Conservation's 303(d) list of impaired water bodies. Because of the steep topography of the banks of XXX Creek, disturbance to soils in this area due to development activity may significantly degrade water quality in the Creek and adversely affect Cayuga Lake; and

D. Grantor has received independent legal and financial advice regarding this Easement to the extent that Grantor has deemed necessary. The Grantor freely signs this Easement in order to accomplish its conservation purposes.

NOW, THEREFORE, in consideration of the foregoing, __zero____Dollars ($__0__) paid by Grantee to Grantor, and in consideration of the mutual covenants, terms, conditions and restrictions contained herein, the parties agree as follows:

1. Grant of Conservation Easement

Grantor hereby grants and conveys to Grantee, a Conservation Easement over the Conservation Easement Area (the "**Easement**"). The Easement is an immediately vested interest in real property for the benefit of the general public. The Easement shall run with the land and bind the Property in perpetuity. Grantor will neither perform, nor knowingly allow others to perform, any act on or affecting the Property that is inconsistent with the covenants contained herein. Grantor authorizes Grantee to enforce these covenants in the manner described below.

2. Purpose

It is the primary purpose of this Easement (the "**Purpose**") to establish a riparian corridor (the "**Conservation Easement Area**") along [redacted] Creek (the "**Creek**") for the following purposes (collectively, the "**Conservation Objectives**"): 1) to maintain and improve the quality of water resources associated with the Creek; 2) to perpetuate and foster the growth of healthy vegetation; 3) to preserve habitat for Native Species, as defined in Section 4, Definitions, dependent on water resources or forest resources; and 4) to ensure that activities and uses in the Conservation Easement Area , as defined in Section 4, Definitions, are sustainable, i.e., they neither diminish the biological integrity of the Conservation Easement Area nor deplete the soil, forest and other natural resources within the Conservation Easement Area over time.

3. Implementation

The Purpose of this Easement shall be implemented by limiting and restricting the development and use of the Property in accordance with the herein provisions. No use of the Property shall occur and no permanent or temporary structures or other buildings or improvements shall hereafter be constructed, placed or maintained on the Property, except as specifically provided herein. The Property shall remain subject to all applicable local, state and federal laws and regulations.

4. Definitions

Terms not defined herein shall have the customary dictionary meaning. As used in this Easement, the following additional definitions shall apply:

"**Additional Improvements**" means all buildings, structures, facilities and other improvements within the Conservation Easement Area other than Existing Improvements.

"**Applicable Law**" is defined as any federal, state or local laws, statutes, codes, ordinances, standards and regulations applicable to the Conservation Easement Area or this Conservation Easement as amended through the applicable date of reference.

"**Beneficiary or Beneficiaries**" means the Persons (if any) designated as a Beneficiary.

"**Conservation Easement Area**" is depicted on the Easement Survey Map attached hereto as Exhibit B. The Conservation Easement Area is [redacted] acres.

"**Construction**" means any demolition, construction, reconstruction, removal, expansion, exterior alteration, installation or erection of temporary or permanent Improvements; and, whether or not in connection with any of the foregoing, any excavation, dredging, mining, filling or removal of gravel, soil, rock, sand, coal, petroleum or other minerals.

"**Existing Agreements**" is defined as easements and other servitudes affecting the Conservation Easement Area as defined on the Easement Survey Map or as identified in the Baseline Documentation Report and running to the benefit of utility service providers and other Persons that constitute legally binding servitudes prior in right to this Conservation Easement.

"**Existing Improvements**" means Improvements located on, above or under the Conservation Easement Area as identified in the Baseline Documentation Report.

"**Grantor**" or "**owners**" include the original Grantor, his or her heirs, successors and assigns, all future owners of any legal or equitable interest in all or any portion of the Property, and any party entitled to the possession or use of all or any part thereof; and the term "**Grantee**" includes the original Grantee and its successors and assigns.

"**Improvements**" is defined as any additions or modifications to the property. They include construction, erection, installation, removal or placement of buildings, structures, habitat improvements, pedestrian trails, stream stabilization, utilities, signs, fences, walls and gates.

"**Indemnified Parties**" is defined as the Holder, each Beneficiary (if any) and their respective members, directors, officers, employees and agents and the heirs, personal representatives, successors and assigns of each of them.

"**Invasive Species**" is defined as a plant species that is (a) non-native to the ecosystem under consideration; and (b) whose introduction causes or is likely to cause economic or environmental harm or harm to human health.

"**Lien**" means any mortgage, lien or other encumbrance securing the payment of money.

"**Litigation Expense**" means any court filing fee, court cost, arbitration fee or cost, witness fee and each other fee and cost of investigating and defending or asserting any claim of violation or for indemnification under this Conservation Easement including in each case, attorneys' fees, other professionals' fees and disbursements.

"**Losses**" is defined as any liability, loss, claim, settlement payment, cost and expense, interest, award, judgment, damages (including punitive damages), diminution in value, fines, fees and penalties or other charge other than a Litigation Expense.

"**Native Species**" is defined as a plant indigenous to the locality under consideration.

"**Person**" is referred to as an individual, organization, trust or other entity.

"**Review**" means review and approval of Grantee under the procedure described in Section 15.

"**Review Requirements**" means collectively, any plans, specifications or information required for approval of an activity, use or Construction under Applicable Law (if any) plus (a) the information required under the Review Requirements incorporated into this Conservation Easement either as an exhibit or as part of the Baseline Documentation Report or (b) if the information described in clause (a) is inapplicable, unavailable or insufficient under the circumstances, the guidelines for Review of submissions established by Holder as of the applicable date of reference.

"**Top of the Bank**" means the ordinary high water level for a water basin or wetland, and the break in slope for a watercourse.

5. Reserved Rights Retained by Grantor

Notwithstanding any provisions of this Easement to the contrary, Grantor reserves all customary rights and privileges of ownership, including the right of exclusive use, possession and enjoyment of the Property, the rights to sell, lease, and devise the Property, as well as any other rights consistent with the Purpose set forth in Section 2, Purpose, and not specifically prohibited or limited by this Easement. Unless otherwise specified below, nothing in this Easement shall requires Grantor to take any action to restore the condition of the Property after any Act of God. Nothing in this Easement relieves Grantor of any obligation with respect to the Property or restriction on the use of the Property imposed by law.

6. Access

Nothing contained in this Easement shall give or grant to the public a right to enter upon or to use the Property or any portion thereof where no such right existed in the public immediately prior to the execution of this Easement.

7. Right to Use the Property for Recreational Purposes

Grantor retains the right to use the Property for otherwise lawful recreational uses, including, but not limited to, hunting, fishing, cross-country skiing and snowmobiling providing no motorized trails are established in the Conservation Easement Area. All uses are subject to the limitations set forth in this Easement, including Section 8, Improvements.

8. Improvements

Permitted uses of the Property vary depending on where on the Property the use occurs. The Property is divided into two principal areas, which are depicted on the Easement Survey Map attached hereto as Exhibit A and which include: 1) the Conservation Easement Area; and 2) the Area of Development. This easement will only outline permitted uses within the Conservation Easement Area.

Grantor may undertake construction, erection, installation, removal or placement of buildings, structures, or other improvements within the Conservation Easement Area only as provided in this Easement and set forth below. Any permission requested or granted shall be in accordance with Section 15, Permission of Grantee.

8(a) Existing Agreements

A) Without permission of Grantee, Grantor may construct Improvements that they are required to allow under Existing Agreements, as defined in Section 4, Definitions.

8(b) Other Additional Improvements

A) Without permission of Grantee, Grantor may repair, remove, enlarge and replace existing fences.

B) Without permission of Grantee, Grantor may install signs along the perimeter of the

buffer not exceeding one square foot each.
C) Without permission of Grantee, Grantor may install habitat improvement devices such as birdhouses and bat houses.
D) Without permission of Grantee, Grantor may develop trails of highly porous surface including footbridges for non-motorized use.
E) Permission is required by Grantee for construction or placement of fish passage structures, fish habitat improvements, and stream bank stabilization measures.
F) Permission is required by Grantee for construction or placement of utility lines. Such permission shall be granted only if there is no other reasonably feasible means to provide utility services to the Property except via the Conservation Easement Area.

9. Subdivision
The Property is currently comprised of one tax parcel owned by the Grantor. Any subdivision, recording of a subdivision plan, partition, or any other attempt to internally or externally divide any individual parcel or the Property into two or more parcels is prohibited. Mortgages, or other non-possessory interests in land do not constitute subdivisions for the purpose herein.

10. Forest Management
No timber harvesting will be allowed in the Conservation Easement Area unless timber removal is necessary to protect the property or maintain and/or enhance the ecosystem and related habitat. Such harvesting must be done with approval from the Grantee.

11. Mining and On-Site Extractive Activity
New surface exploration for, or development, storage and extraction of, minerals and hydrocarbons in the Conservation Easement Area by any method are prohibited. Any surface mining or extractive activity that is not expressly authorized in this section or any reclamation deemed unacceptable as described herein shall be considered a violation of this Easement and the Grantee may seek any of the remedies as described in Section 19.

12. Road Construction
The construction of roadways, driveways, parking lots, public roads and all impervious surface coverings is prohibited in the Conservation Easement Area.

13. Dumping and Trash
The dumping, land filling, burial, application, injection, or accumulation of any kind of garbage, trash or debris in the Conservation Easement Area is prohibited, including:
A) Storage of hazardous substances
B) Above or below ground petroleum storage facilities
C) Drain fields from on-site sewage disposal and treatment system
D) Raised septic systems
E) Solid waste landfills, junkyards or any type of fill

14. Other Activities and Uses
Except as provided in the preceding sections; Improvements, activities and uses within the Conservation

Easement Area are limited to those permitted below and provided in any case that the intensity or frequency of the activity or use does not have the potential to materially and adversely impair maintenance or attainment of Conservation Objectives.

A) Activities, Uses and Disturbance of Resources

1. Without permission of Grantee, Grantor may remove Invasive Species, or otherwise disturb the soil and non-tree vegetation in the Conservation Easement Area, as long as the actions are clearly necessary to further the Conservation Objectives outlined in Section 2, Purpose. If it is unclear whether or not such actions are clearly necessary, the Grantor shall consult with Grantee prior to taking such actions.
2. Without permission of Grantee, Grantor may plant Native Species, as long as it is not planted as a monoculture.
3. Permission is required by Grantee for stream bank stabilization, dam removal and other habitat improvement activities, as long as Improvements necessary to allow such use are also permitted, as described in the Easement.
4. Permission is required by Grantee for removal and disturbance of soil, rock and vegetative resources to the extent reasonably necessary to accommodate Construction of and maintain access to Improvements within the Conservation Easement Area with restoration as soon as reasonably feasible by replanting with Native Species.
5. Without permission of Grantee, Grantor may use vehicles in connection with an activity permitted or otherwise in the case of emergency.

15. Permission of Grantee

Where Grantor is required to obtain Grantee's permission for a proposed action hereunder, said permission shall be requested in writing. Grantor's written request for permission shall include any information or documentation that is relevant to the request and where applicable shall include building plans identifying the use, footprint and total square footage of any proposed structures, and related survey information if survey information is available. A request that does not include all pertinent information or documentation that is relevant to the request shall not be considered a complete written request and the Grantee are under no obligation to respond within 45 days, as described below. Grantee shall, however, be required to respond to Grantor's incomplete written request with a request for additional information within twenty (20) days of receipt of an incomplete written request.

Grantee shall grant permission unless it determines that such action would violate the Purpose of this Easement.

Once Grantor have provided Grantee with a complete written request, Grantee shall respond in writing granting or denying permission within forty-five (45) days of receipt of such request.

Grantee shall not be held liable for any losses incurred by Grantor due to Grantee's failure to act within any of the above time periods. Grantee shall not be liable for damages for any failure to grant permission to Grantor. All requests and letters shall be transmitted in accordance with Section 28, Notices.

16. Ongoing Responsibilities of Grantor and Grantee

Other than as specified herein, this Easement is not intended to impose any legal or other responsibility on Grantee, or in any way to affect any obligations of Grantor as owner of the Property, including, but not limited to, the following:

16(a) ***Taxes***

Grantor shall be solely responsible for payment of all taxes and assessments levied against the Property. If the Grantor becomes delinquent in payment of taxes the Grantee, at its option, shall have the right to take such actions as may be necessary to protect the Grantee's interest in the Property and to assure the continued enforceability of this instrument and to recover from Grantor all of its costs including reasonable attorney's fees and costs. If, as a result of such actions, Grantee pays any taxes or assessments on Grantor's interest in the Property, Grantor will reimburse Grantee within forty-five (45) days for the same.

16(b) ***Upkeep and Maintenance***

Grantor shall be solely responsible for the upkeep and maintenance of the Property, to the extent required by law and this Easement. Grantee shall have no obligation for the upkeep or maintenance of the Property.

16(c) ***Liability and Indemnification***

Grantor agrees to indemnify and hold harmless Grantee from any and all costs, claims or liability, including but not limited to reasonable attorneys fees arising from any personal injury, accidents, negligence or damage relating to the Property, or any claim thereof, unless due to the negligence or intentional acts of Grantee or its agents, in which case liability shall be apportioned accordingly.

17. Baseline Documentation

By its execution of this Easement, Grantee acknowledges that the present uses of the Property are permitted by this Easement. In order to document the present condition of the Property (including both natural and man-made features) so as to facilitate future monitoring and enforcement of this Easement, a Baseline Documentation Report, including maps and photographs, describing such condition at the date hereof, has been prepared and subscribed by both parties, and a copy thereof has been delivered to Grantor and a copy will be kept on file with Grantee. The Baseline Documentation Report shall remain on record and is available for inspection at the OFFICE OF GRANTOR. The Report may be used by Grantee or the Grantor to establish that a change in the use or character of the Property has occurred, but its existence shall not preclude the use by Grantee or the Grantor of other evidence to establish the condition of the Property as of the date of this Easement.

18. Right of Inspection

Grantee shall have the right to enter upon the Property upon forty-eight (48) hours advance notice to Grantor for the purpose of inspecting for compliance with the terms of this Easement. Such inspection shall be conducted between the hours of 9 a.m. and 7 p.m. on a weekday that is not a legal holiday recognized by the State of New York or at a date and time agreeable to the Grantee and Grantor. In

the instance of a violation or suspected violation of the terms of this Easement which has caused or threatens to cause irreparable harm to any of the agricultural or other resources this Easement is designed to protect, no such advance notice is required.

19. Enforcement

If Grantee determines that a violation of this Easement has occurred, Grantee shall so notify Grantor, giving Grantor thirty (30) days to cure the violation. Notwithstanding the foregoing, where Grantee in Grantee's sole discretion determines that an ongoing or threatened violation could irreversibly diminish or impair the Purpose of this Easement, Grantee may bring an action to enjoin the violation, *ex parte* if necessary, through temporary or permanent injunction.

In addition to injunctive relief, Grantee shall be entitled to seek the following remedies in the event of a violation:

(a) money damages, including damages for the loss of the resources protected under the Purpose of this Easement; and

(b) restoration of the Property to its condition existing prior to such violation.

Said remedies shall be cumulative and shall be in addition to all remedies now or hereafter existing at law or in equity. In any case where a court finds that a violation has occurred, Grantor shall reimburse Grantee for all its expenses incurred in stopping and correcting the violation, including, but not limited to, reasonable attorney's fees and costs. The failure of Grantee to discover a violation or to take immediate legal action shall not bar Grantee from doing so at a later time. In any case where a court finds no violation has occurred, each party shall bear its own costs.

20. Transfer of Easement

Both Grantee, acting together, or any sole remaining Grantee which has acquired the rights of another Grantee, shall have the right to transfer this Easement to any remaining co-grantee or any private non-governmental organization or public agency that, at the time of transfer is a "qualified organization" under Section 170(h) of the Internal Revenue Code, provided the transferee expressly agrees to assume the responsibility imposed on Grantee by this Easement. If Grantee ever ceases to exist or qualify under Section 170(h) of the Internal Revenue Code, or applicable state law, a court of competent jurisdiction shall transfer this Easement to another qualified organization having similar purposes that agrees to assume the Grantee's responsibilities imposed by this Easement. Grantor will be notified in writing in advance of such transfer.

21. Transfer of Property

Any subsequent conveyance, including, without limitation, transfer, lease or mortgage of the Property, shall be subject to this Easement, and any deed or other instrument evidencing or effecting such conveyance shall contain language substantially as follows: "This {conveyance, lease, mortgage, easement, etc.} is subject to a Conservation Easement which runs with the land and which was granted to Tompkins County by instrument dated _____, and recorded in the office of the Clerk of Tompkins County on _____ as Instrument Number _____." Grantor shall notify Grantee in writing at least thirty (30) days before conveying the

Property, or any part thereof or interest therein, to any third party. The failure to notify Grantee or to include said language in any deed or instrument shall not, however, affect the validity or applicability of this Easement to the Property or limit its enforceability in any way.

22. Amendment of Easement
This Easement may be amended only with the written consent of Grantee and Grantor. Any such amendment shall be consistent with the Purpose of this Easement. Any such amendment shall be duly recorded.

24. Interpretation
This Easement shall be interpreted under the laws of the State of New York, or federal law, as appropriate. Notwithstanding any general rule of construction to the contrary, this Easement shall be liberally construed to effectuate the Purpose of this Easement. If any provision in this Easement is found to be ambiguous, an interpretation consistent with the Purpose of this Easement that would render the provision valid shall be favored over any interpretation that would render the provision invalid.

25. Successors
Every provision of this Easement that applies to Grantor or Grantee shall also apply to their respective agents, heirs, survivors, executors, administrators, assigns, and other successors in interest, and shall continue as a servitude running in perpetuity with the Property.

26. Severability
Invalidity of any of the covenants, terms or conditions of this Easement, or any part thereof, by court order or judgment shall in no way affect the validity of any of the other provisions hereof which shall remain in full force and effect.

27. Notices
Any notice required or desired to be given under this Easement shall be in writing and shall be sent by (i) personal delivery, (ii) via U.S. registered or certified mail, return receipt requested, or (iii) via Federal Express or other private courier of national reputation providing written evidence of delivery. Notice shall be deemed given upon receipt in the case of personal delivery, and upon delivery by the U.S. Postal Service or private courier. All notices shall be properly addressed as follows: (a) if to Grantee: XXXXXX; (b) if to Grantor: XXXXXX; (c) if to any subsequent owner, at the address of the Property; Any party can change the address to which notices are to be sent to him, her or it by duly giving notice pursuant to this Section.

28. Title
The Grantor covenants that the Grantor has good right to grant and convey the aforesaid Easement; that the Property is free and clear of any and all mortgages not subordinated to this Easement, and that the Grantee shall have the use of and enjoyment of the benefits derived from and existing out of the aforesaid Easement.

29. Subsequent Liens on Property
No provisions of this Easement should be construed as impairing the ability of Grantor to use this

Property, or a portion thereof encompassing entire separately deeded parcels, as collateral for a subsequent borrowing.

30. Subsequent Encumbrances
The grant of any easements or use restrictions is prohibited, except with the permission of Grantee.

31. Grantor's Environmental Warranty
Nothing in this Easement shall be construed as giving rise to any right or ability in Grantee to exercise physical or management control over the day-to-day operations of the Property, or any of Grantor's activities on the Property.

Grantor warrants that he or she has no actual knowledge of a release or threatened release of hazardous substances or wastes on the Property, as such substances and wastes are defined by applicable law, and hereby promises to indemnify Grantee, and hold Grantee harmless from, any and all loss, cost, claim (without regard to its merit), liability or expense (including reasonable attorneys' fees) arising from or with respect to any release of hazardous waste or violation of environmental laws.

If at any time after the effective date of this Easement there occurs a release in, on, or about the property of any substance now or hereafter defined, listed, or otherwise classified pursuant to any federal, state, or local law, regulation, or requirement as hazardous, toxic, polluting, or otherwise contaminating to the air, water, or soil, or in any way harmful or threatening to human health or the environment, Grantor agree to take all steps that may be required under federal, state, or local law necessary to assure its containment and remediation, including any cleanup.

32. Duration of Easement
Except as expressly otherwise provided herein, this Easement shall be of perpetual duration, and no merger of title, estate or interest shall be deemed effected by any previous, contemporaneous, or subsequent deed, grant, or assignment of an interest or estate in the Property, or any portion thereof, to Grantee, it being the express intent of the parties that this Easement not be extinguished by, or merged into, any other interest or estate in the Property now or hereafter held by Grantee.

33. Entire Agreement
This instrument sets forth the entire agreement of the parties with respect to the Easement and supersedes all prior discussions, negotiations, understandings and agreements relating to the Easement, all of which are merged herein. No alteration or variation of this instrument shall be valid or binding unless contained in an amendment that complies with Section 22, Amendment of Easement.

34. Waiver
No waiver by Grantee of any default, or breach hereunder, whether intentional or not, shall be deemed to extend to any prior or subsequent default or breach hereunder or affect in any way any rights arising by virtue of any prior or subsequent such occurrence. No waiver shall be binding unless executed in writing by Grantee.

35. Binding Effect
The provisions of this Easement shall run with the Property in perpetuity and shall bind and be enforceable against the Grantor and all future owners and any party entitled to possess or use the Property or any portion thereof while such party is the owner or entitled to possession or use thereof. Notwithstanding the foregoing, upon any transfer of title, the transferor shall, with respect to the Property transferred cease being a Grantor or owners with respect to such Property for purposes of this Easement and shall, with respect to the Property transferred, have no further responsibility, rights or liability hereunder for acts done or conditions arising thereafter on or with respect to such Property, but the transferor shall remain liable for earlier acts and conditions done or occurring during the period of their ownership or conduct.

36. Captions
The captions in this instrument have been inserted solely for convenience of reference and are not a part of this instrument and shall have no effect upon construction or interpretation.

IN WITNESS WHEREOF, Grantor and Grantee, intending to be legally bound hereby, have hereunto set their hands on the date first above written.

Grantor: _____
XXXXXXX

Grantee: XXXXXXX

By: _____
XXXXXXXXXXX

State of New York)
County of), ss:

On the ____day of _____ in the year 200__ before me, the undersigned, personally appeared XXXXXX, personally known to me or proved to me on the basis of satisfactory evidence to be the individual (s) whose name (s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity (ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

_____
Signature/office of individual taking acknowledgement

State of New York)
County of), ss:

On the ____day of_____ in the year 200__ before me, the undersigned, personally appeared XXXXXXXX, personally known to me or proved to me on the basis of satisfactory evidence to be the individual (s) whose name (s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity (ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

_____

Signature/office of individual taking acknowledgement

Exhibit A

Legal Description of Property

Exhibit B

Easement Survey Map

The Easement Survey Map, dated X, and revised Y, and bearing the seal of NAME, Licensed Land Surveyor working for SURVEYING COMPANY, COMPANY ADDRESS is to be filed with the Tompkins County Clerk's Office at 320 North Tioga Street, concurrently with the recording of this easement.

RIPARIAN BUFFER PROTECTION AGREEMENT

THIS RIPARIAN BUFFER PROTECTION AGREEMENT dated as of _____ is by and between XXXXX (the "undersigned Owners") and Tompkins County ("County").

Background

Property

The undersigned Owners are the sole owners in fee simple of the Property as legally described in the deed to them recorded in the Tompkins County Clerk's Office at 320 N. Tioga Street, Ithaca, NY 14850. The Property is also described as:

Street Address:	
Municipality:	
County:	
Tax Parcel Number:	

Purpose

Conservation Objectives

The undersigned Owners and County are entering into this Riparian Property to establish a riparian corridor (the "Riparian Corridor") along XXXX Creek (the "Creek") for the following purposes (collectively, the "Conservation Objectives"): 1) to maintain and improve the quality of water resources associated with the Creek; 2) to support flood mitigation investments; 3) to perpetuate and foster the growth of healthy vegetation; 4) to preserve habitat for Native Species; and 5) to ensure that activities and uses in the Riparian Buffer are sustainable, i.e., they neither diminish the biological integrity of the Riparian Buffer nor deplete the soil, forest and other natural resources within the Riparian Buffer over time.

Riparian Buffer Area

The Riparian Buffer consists of the strips of land stretching 100 (ft) feet landward from the Top of the Banks of the Creek, together with the banks and bed of the Creek, to the extent that the strips, banks and bed are contained within the Property. A line defining the Riparian Buffer will be discretely marked on the property.

Baseline Documentation

The Baseline Documentation Report of the buffer, to be kept on file at the Tompkins County Planning Department, describes the conservation values of the Riparian Buffer identified in the Conservation Objectives, describes existing conditions of the Riparian Buffer including Existing Improvements as of the Agreement Date, and includes, among other information, photographs depicting the Riparian Buffer.

Allowed Activities Within Riparian Buffer Area

The following activities are considered allowed uses within the established Riparian Buffer:

(1) Benches, seating, and small signage

(2) Flood control structures and stream bank stabilization measures approved by Tompkins County Soil and Water Conservation District and the County

(3) Public utility transmission lines

(4) Educational and scientific research

(5) Footpaths not exceeding 10ft in width

(6) Conservation uses including the restoration of natural vegetation, wildlife sanctuaries, nature preserves, and forest preserves

Prohibited Activities Within Riparian Buffer Area

The following activities are considered prohibited activities within the established Riparian Buffer:

(1) Construction of new buildings or structures

(2) Storage or placement of any water quality hazardous materials including:

- Storage of hazardous substances
- Above or below ground petroleum storage facilities
- Drain fields from on-site sewage disposal and treatment system
- Raised septic systems
- Solid waste landfills, junkyards or any type of fill
- Confined animal feedlot operations
- Subsurface discharges from a wastewater treatment plant
- Land application of bio-solids

(3) Clear-cutting of trees and other vegetation and removal or disturbance of vegetation such that soil quality will be compromised and increased erosion may ensue

(4) Insertion of roadways or driveways and all impervious surface coverings

(5) Waste storage and disposal including but not limited to the disposal of and dumping of snow and ice, fill, the burning of trash (prohibited throughout property) recyclable materials, trash generatives, used automobiles or appliance structures, and other abandoned materials.

(6) Mining or on-site extractive activity of any type

Enforcement

If the County determines that a violation of this Agreement has occurred they shall notify the Owners, giving Owners thirty (30) days to cure the violation. Notwithstanding the foregoing, where the County in the County's sole discretion determines that an ongoing or threatened violation could irreversibly diminish or impair the Riparian Buffer. The County may bring an action to enjoin the violation, ex parte if necessary, through temporary or permanent injunction.

In addition to injunctive relief, the County shall be entitled to seek the following remedies in the event of a violation:

(a) money damages, including damages for the loss of the resources protected under the Purpose of this Agreement; and

(b) restoration of the Property to its condition existing prior to such violation.

Said remedies shall be cumulative and shall be in addition to all remedies now or hereafter existing at law or in equity. In any case where a court finds that a violation has occurred, Owners shall reimburse the County for all its expenses incurred in stopping and correcting the violation, including, but not limited to, reasonable attorney's fees and costs. The failure of the County to discover a violation or to take immediate legal action shall not bar the County from doing so at a later time. In any case where a court finds no violation has occurred, each party shall bear its own costs.

Binding Effect

The provisions of this Agreement shall run with the Property in perpetuity and shall bind and be enforceable against the Owner and all future owners and any party entitled to possess or use the Property or any portion thereof while such party is the owner or entitled to possession or use thereof. Notwithstanding the foregoing, upon any transfer of title, the transferor shall, with respect to the Property transferred cease being a Owner or owners with respect to such Property for purposes of this Agreement and shall, with respect to the Property transferred, have no further responsibility, rights or liability hereunder for acts done or conditions arising thereafter on or with respect to such Property, but the transferor shall remain liable for earlier acts and conditions done or occurring during the period of their ownership or conduct.

—

INTENDING TO BE LEGALLY BOUND, the undersigned Owner or Owners and County, by their respective duly authorized representatives, have signed and delivered this Agreement as of the noted Date.

_____ _____

Owner Date

_____ _____

Tompkins County Date

State of New York)
County of), ss:

On the _____day of _____ in the year 200__ before me, the undersigned, personally appeared _____personally known to me or proved to me on the basis of satisfactory evidence to be the individual (s) whose name (s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity (ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

_____

Signature/office of individual taking acknowledgement

Planning Department

93 East Main Street
Dryden, NY 13053

T 607 844-8888 ext. 216
F 607 844-8008
joy@dryden.ny.us

http://dryden.ny.us/planning-department

To: Involved Agencies:

Michael P. Uitvlugt, Biologist, U.S. Army Corps of Engineers Regulatory Branch
Matthew Marko, Regional Director, NYS Department, of Environmental Conservation Region 7
Julie Baldwin, Planning Group, NYS Department of Transportation, Region 3
Katherine Borgella, Commissioner, Tompkins County Department of Planning & Sustainability
Elizabeth Cameron, Director of Environmental Health, Tompkins County Health Department
Rick Young, Highway/Department of Public Works Superintendent, Town of Dryden

From: David Sprout, Code Enforcement Officer

Date: November 15, 2019

Re: Trinitas Ventures, LLC's Multi-family Housing Development Project at 959 Dryden Road

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REQUEST FOR LEAD AGENCY STATUS

The Town of Dryden has received an application for Special Use Permit Approval and Site Plan Approval for Trinitas Ventures, LLC's proposed 219 unit multi-housing project at 959 Dryden Road pursuant to Articles XI and XII of the Dryden Zoning Law. The proposal involves construction of 17 residential buildings bordering on Dryden and Mount Pleasant Roads. The project includes construction of a mix of 1, 2, 3 and 4 bedroom dwelling units within 17 townhouse style buildings, a clubhouse and recreational amenities, a 2200 sf retail space, a parking garage which combined with surface parking provides a total of 428 parking spaces, and stormwater facilities.

The preliminary determination is that this is a Type 1 Action under the State Environmental Quality Review Act, 6 NYCRR Part 617 (SEQRA). In an effort to coordinate review under SEQRA, your Board or Agency has been identified as having "approval" authority over some aspects of this project. Under Dryden Zoning Law these applications are reviewed and decided by the Dryden Town Board. It is the intent of the Town of Dryden to act as Lead Agency in this review.

Enclosed is a Full Environmental Assessment Form (Full EAF), Part 1, along with supplemental project information provided by the applicant. These are the minimum materials required under SEQRA for lead agency coordination. All other application material may be viewed on the Town of Dryden's website: www.dryden.ny.us

It is respectfully requested that you advise within thirty (30) days of your consent to the Town of Dryden Town Board serving as the Lead Agency for the project. The Town Board will undertake Lead Agency status at that time in the event that you do not respond within thirty (30) days, that deadline being December 18, 2019.

If you have any questions regarding the above manner, please contact Ray Burger, Director of Planning, at (607) 844-8888 x213, or by email at rburger@dryden.ny.us

Enc.
Full EAF Part 1
Site Plan

Cc:
Tiffany Ho, Chief, Varna Volunteer Fire Company
Michael Hall, Chief, Neptune Hose Company
Teri Phelps, NYS DEC Region 7 Cortland Office
Jeffrey Smith, Highway Director, Tompkins County Highway Department
Steve Riddle, General Manager, Southern Cayuga Lake Intermunicipal Water Commission
Mark Bush, Asst. Resident Engineer, Cortland/Tompkins Residency, Region 3, NYS Department of Transportation
Joseph Turcotte, General Manager, Tompkins Consolidated Area Transit
Fernando DeAragon, Executive Director, Ithaca-Tompkins County Transportation Council
Jeremy Thomas, Senior Director, Cornell University Real Estate
Peter Davies, Chairman, Town of Dryden Conservation Board
John Kiefer, Chairman, Town of Dryden Planning Board
Bob Beck, Chairman, Rail Trail Task Force
Jeff Fearn, Chairman, Town of Dryden Zoning Board of Appeals
Heather McDaniel, Administrative Director, Tompkins County IDA

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either "Yes" or "No". If the answer to the initial question is "Yes", complete the sub-questions that follow. If the answer to the initial question is "No", proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the applicant or project sponsor to verify that the information contained in Part 1is accurate and complete.

A. Project and Applicant/Sponsor Information.

Name of Action or Project: Townhomes at Dryden		
Project Location (describe, and attach a general location map): Rte. 366 Dryden Road, Ithaca, NY 14850		
Brief Description of Proposed Action (include purpose or need): The project includes construction of a mix of 1, 2, 3 and 4 bedroom multifamily apartment units within 17 townhouse style buildings along with recreational amenities and a private clubhouse. A +/- 2,200 sf retail component, which could include a coffee shop (or similar shop) is also proposed. Max. height, as defined by the Town of Dryden Zoning Ordinance, will be 40 ft. A total of 428 parking spaces are to be provided via surface spaces and structured spaces within a parking garage to be used for the residence, retail patrons, community garden and the Varna Trail. The project will have access both to Mt. Pleasant and to Dryden Roads and vehicle circulation through the site is sufficient to accommodate life safety equipment such as fire trucks and ambulances. Two surface SWM facilities and one underground SMM Vault will provide quality and quantity controls for stormwater. Utilities serving the site include storm, water, sanitary sewer, electric, phone and cable and no new overhead lines are proposed. There are also off-site infrastructure improvements associated with this project; they include: adding a PRV station next to the Monkey Run Pump station, upsize 2,680 LF of waterline pipe from 8" to 12" along NYS Rt. 366 from the Apple Orchard PRV to Game Farm Rd., upsize 1,440 LF of waterline pipe from 8" to 12" along NYS Rt. 366 from Game Farm Rd. to Forest Home Dr., upsize 2,050 LF of waterline pipe from 8" to 12" along NYS Rt. 366 from Forest Home Dr. to the Site, upsize the pumps and generator at the Varna Sanitary Sewer Pump Station, and upsize 2,150 LF of sanitary sewer pipe from 8" to 10" along NYS Rt. 366 from Forest Home Dr. to the Site.		
Name of Applicant/Sponsor: Trinitas Ventures, LLC	Telephone: (317) 507-7142 E-Mail: khansen@trinitas.ventures.com	
Address: 201 Main Street, Suite 1000		
City/PO: Lafayette	State: IN	Zip Code: 47901
Project Contact (if not same as sponsor; give name and title/role): HUNT Engineers, Architects, Land Surveyors, & Landscape Architects, DPC	Telephone: (585) 327-7950 E-Mail: keithm@hunt-eas.com	
Address: 4 Commercial Street, Suite 300		
City/PO: Rochester	State: NY	Zip Code: 14614
Property Owner (if not same as sponsor):	Telephone: E-Mail:	
Address:		
City/PO:	State:	Zip Code:

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)		
Government Entity	**If Yes: Identify Agency and Approval(s) Required**	**Application Date (Actual or projected)**
a. City Counsel, Town Board, or Village Board of Trustees ☑Yes☐No	Town Board, Special Use Permit, Site Plan	
b. City, Town or Village Planning Board or Commission ☐Yes☑No		
c. City, Town or Village Zoning Board of Appeals ☑Yes☐No	ZBA: Buffering setback variance	
d. Other local agencies ☐Yes☑No		
e. County agencies ☑Yes☐No	County Planning Board	
f. Regional agencies ☐Yes☑No		
g. State agencies ☑Yes☐No	NYSDEC: SPDES, Water Qual. Cert., dam permit, DOH: water and sewer. DOT: Utility/driveway	
h. Federal agencies ☑Yes☐No	USACE: Disturbance to water of the US	

i. Coastal Resources.

i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? ☐Yes☑No

ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? ☐Yes☑No

iii. Is the project site within a Coastal Erosion Hazard Area? ☐Yes☑No

C. Planning and Zoning

C.1. Planning and zoning actions.

Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? ☐Yes☑No

- **If Yes,** complete sections C, F and G.
- **If No,** proceed to question C.2 and complete all remaining sections and questions in Part 1

C.2. Adopted land use plans.

a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located? ☑Yes☐No

If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located? ☑Yes☐No

b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway; Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) ☐Yes☑No

If Yes, identify the plan(s):

c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? ☐Yes☑No

If Yes, identify the plan(s):

(*** NYSDOT-driveway and utility connection permits, NYSDEC SPDES permit, MS4 permit, NYSDEC sewer extension, NYSDOH water service approval.)

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. ☑ Yes ☐ No
If Yes, what is the zoning classification(s) including any applicable overlay district?
Varna Hamlet Residential District, Varna Hamlet Mixed Use District and Varna Hamlet Traditional District

b. Is the use permitted or allowed by a special or conditional use permit? ☑ Yes ☐ No

c. Is a zoning change requested as part of the proposed action? ☑ Yes ☐ No
If Yes,
i. What is the proposed new zoning for the site? An elimination of the 15' Setback from the buffer per Section 909.B.3 of the Zoning Ordinance.

C.4. Existing community services.

a. In what school district is the project site located? Ithaca Central School District

b. What police or other public protection forces serve the project site?
NYS Police and Tompkins County Sheriff

c. Which fire protection and emergency medical services serve the project site?
Dryden Ambulance, Dryden Fire Protection

d. What parks serve the project site?
Cornell Botanic Gardens, Monkey Run Natural Area, Ellis Hollow Nature Preserve and Dryden Rail Trail

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? Multi-family residential with a retail component, clubhouse, surface parking and parking garage.

b. a. Total acreage of the site of the proposed action? 16.7 acres
b. Total acreage to be physically disturbed? 13.7 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 16.7 acres

c. Is the proposed action an expansion of an existing project or use? ☐ Yes ☑ No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % _____ Units: _____

d. Is the proposed action a subdivision, or does it include a subdivision? ☐ Yes ☑ No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)
ii. Is a cluster/conservation layout proposed? ☐ Yes ☐ No
iii. Number of lots proposed? _____
iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____

e. Will the proposed action be constructed in multiple phases? ☐ Yes ☑ No
i. If No, anticipated period of construction: 17 months
ii. If Yes:
- Total number of phases anticipated _____
- Anticipated commencement date of phase 1 (including demolition) _____ month _____ year
- Anticipated completion date of final phase _____ month _____ year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

f. Does the project include new residential uses? ☑Yes ☐No

If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)	
Initial Phase				219*	*(66 1-bedroom units, 33 2-bedroom units, 60 3-bedroom units, and 60 4-bedroom units)
At completion of all phases				219*	

g. Does the proposed action include new non-residential construction (including expansions)? ☑Yes ☐No

If Yes,

i. Total number of structures 3* *Retail, pool and clubhouse and maintenance building.

ii. Dimensions (in feet) of largest proposed structure: 40 height; 151 width; and 109 length

iii. Approximate extent of building space to be heated or cooled: 20,433 sf (all three buildings) square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? ☑Yes ☐No

If Yes,

i. Purpose of the impoundment: stormwater detention system and infiltration basin

ii. If a water impoundment, the principal source of the water: ☐ Ground water ☑ Surface water streams ☐ Other specify: stormwater runoff from the project site

iii. If other than water, identify the type of impounded/contained liquids and their source.

iv. Approximate size of the proposed impoundment. Volume: 2 million gallons; surface area: 08 acres

v. Dimensions of the proposed dam or impounding structure: 15' height; 220' length

vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete): compacted eathern fill

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? (Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite) ☑Yes ☐No

If Yes:

i .What is the purpose of the excavation or dredging? Construction of buildings, parking lots, utilities and SWM Facilities

ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?

- Volume (specify tons or cubic yards): +/- 32,000 cubic yards
- Over what duration of time? 4-6 months

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them.

Top soil, structural and non-structural fill will be removed from the site and used at other construction sites or NYSDEC approved fill locations.

iv. Will there be onsite dewatering or processing of excavated materials? ☑Yes ☐No

If yes, describe. Existing pond to be drained and reconstructed to current DEC standards.

v. What is the total area to be dredged or excavated? +/- 13.5 acres

vi. What is the maximum area to be worked at any one time? 7-8 acres

vii. What would be the maximum depth of excavation or dredging? 41 feet

viii. Will the excavation require blasting? ☐Yes ☑No

ix. Summarize site reclamation goals and plan:

Re-use as much dirt on site. Use non-structural fill in open spaces and take structural fill and good unused top soil off-site to be used at other construction sites. The structural fill and good top soil is more valuable to other construction sites so the non-structural fill will try to be used on-site as much as possible.

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? ☑Yes ☐No

If Yes:

i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): USACOE- Jurisdictional Wetlands of approximately +/- 0.50 Acres PEM cover type. The wetland is located within the southern portion of the project site and is unnamed. Streams A and B will have approximately +/- 0.03 acres and +/- 0.01 acres of disturbance, respectively. However, disturbance to Stream A will be reduced by using an open bottom culvert to keep the wetlands intact.

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:
Excavation, fill and placement of drainage structures. Existing pond will be regraded and dam will likely be reconstructed. Proposed road, parking and retaining walls also to be constructed. Area of disturbance within waterbody/wetland to be approximately +/- 20,800 sq. ft. or 0.52 Ac.

iii. Will the proposed action cause or result in disturbance to bottom sediments? ☑ Yes ☐ No
If Yes, describe: bottom of existing pond will be excavated and culverts installed elsewhere

iv. Will the proposed action cause or result in the destruction or removal of aquatic vegetation? ☑ Yes ☐ No
If Yes:

- acres of aquatic vegetation proposed to be removed: +/- 0.53
- expected acreage of aquatic vegetation remaining after project completion: +/-0.9
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access): Stormwater Management Facility, including dam embankment and road crossing
- proposed method of plant removal: mechanical removal
- if chemical/herbicide treatment will be used, specify product(s):

v. Describe any proposed reclamation/mitigation following disturbance:
Site will be seeded and stabilized with appropriate mixes. Mitigation will be done with the in-lieu fee program.

c. Will the proposed action use, or create a new demand for water? ☑ Yes ☐ No
If Yes:

i. Total anticipated water usage/demand per day: 43,500 to 62,200 gallons/day

ii. Will the proposed action obtain water from an existing public water supply? ☑ Yes ☐ No
If Yes:

- Name of district or service area: Varna Water District
- Does the existing public water supply have capacity to serve the proposal? ☐ Yes ☑ No
- Is the project site in the existing district? ☑ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☑ No
- Do existing lines serve the project site? ☑ Yes ☐ No

iii. Will line extension within an existing district be necessary to supply the project? ☑ Yes ☐ No
If Yes:

- Describe extensions or capacity expansions proposed to serve this project: See list at bottom of Page*
- Source(s) of supply for the district: Varna Water District

iv. Is a new water supply district or service area proposed to be formed to serve the project site? ☐ Yes ☑ No
If, Yes:

- Applicant/sponsor for new district:
- Date application submitted or anticipated:
- Proposed source(s) of supply for new district:

v. If a public water supply will not be used, describe plans to provide water supply for the project:

vi. If water supply will be from wells (public or private), what is the maximum pumping capacity: _____ gallons/minute.

d. Will the proposed action generate liquid wastes? ☑ Yes ☐ No
If Yes:

i. Total anticipated liquid waste generation per day: 43,500 to 62,200 gallons/day

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each):
Sanitary Wastewater (43,500 to 62,200 gallons/day).

iii. Will the proposed action use any existing public wastewater treatment facilities? ☑ Yes ☐ No
If Yes:

- Name of wastewater treatment plant to be used: Ithaca Area Wastewater Treatment Facility
- Name of district: S2422-Varna Sewer Prime
- Does the existing wastewater treatment plant have capacity to serve the project? ☑ Yes ☐ No
- Is the project site in the existing district? ☑ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☑ No

*Water Extensions or capacity expansions proposed to serve this project as requested in c.iii. above:
Add a PRV station next to the Monkey Run Pump station, upsize 2,680 LF of pipe from 8" to 12" along NYS Rt. 366 from the Apple Orchard PRV to Game Farm Rd., upsize 1,440 LF of pipe from 8" to 12" along NYS Rt. 366 from Game Farm Rd. to Forest Home Dr., upsize 2,050 LF of pipe from 8" to 12" along NYS Rt.366 from Forest Home Dr. to the Site and connect to 12" line along Rt. 366 and extend into site.

- Do existing sewer lines serve the project site? ☑Yes ☐No
- Will a line extension within an existing district be necessary to serve the project? ☑Yes ☐No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: Upsize the pumps and generator at the Varna Sanitary Sewer Pump Station and upsize 2,150 LF of sanitary sewer pipe from 8" to 10" along NYS Rt. 366 from Forest Home Dr. to the Site. Make connection to line along Rte. 366 running adjacent to site and extension to site.

iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? ☐Yes ☑No

If Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- What is the receiving water for the wastewater discharge? _____

v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge or describe subsurface disposal plans):

_____

_____

vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____

none

_____

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? ☑Yes ☐No

If Yes:

i. How much impervious surface will the project create in relation to total size of project parcel?

_____ Square feet or +/-8.0 acres (impervious surface)

_____ Square feet or 16.7 acres (parcel size)

ii. Describe types of new point sources. Roofs, parking lots, access roads, sidewalks, existing roads, and SWM Facilities

_____

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?

On-site Stormwater Management.

_____

- If to surface waters, identify receiving water bodies or wetlands: _____

_____

_____

- Will stormwater runoff flow to adjacent properties? ☑Yes ☐No

iv. Does the proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? ☑Yes ☐No *SEE NOTE

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? ☐Yes ☑No

If Yes, identify:

i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)

_____

ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)

_____

iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)

_____

g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? ☐Yes ☑No

If Yes:

i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) ☐Yes ☐No

ii. In addition to emissions as calculated in the application, the project will generate:

- _____Tons/year (short tons) of Carbon Dioxide (CO_2)
- _____Tons/year (short tons) of Nitrous Oxide (N_2O)
- _____Tons/year (short tons) of Perfluorocarbons (PFCs)
- _____Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- _____Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- _____Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

*Note: The applicant is reducing the amount of impervious area by use a parking garage to help meet the parking requirements and open space requirements. This garage will also help reduce impervious area on the site by "stacking spaces".

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? ☐Yes ☑No

If Yes:

i. Estimate methane generation in tons/year (metric): _____

ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? ☐Yes ☑No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? ☑Yes ☐No

If Yes:

i. When is the peak traffic expected (Check all that apply): ☑ Morning ☑ Evening ☐ Weekend ☐ Randomly between hours of _____ to _____.

ii. For commercial activities only, projected number of truck trips/day and type (e.g., semi trailers and dump trucks): _____

iii. Parking spaces: Existing 42 Proposed 428 Net increase/decrease +386

iv. Does the proposed action include any shared use parking? ☑Yes ☐No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe:

The site will be accessible both from Rte. 366 and 2 access points from Mt. Pleasant (1-full movement; 1-restricting left turns out from garage).

vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? ☑Yes ☐No

vii Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? ☑Yes ☐No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? ☑Yes ☐No

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? ☑Yes ☐No

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: Approximately 1,900,000 kilowatthours (kWh)

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other): Via grid/local utility (NYSEG).

iii. Will the proposed action require a new, or an upgrade, to an existing substation? ☐Yes ☑No

l. Hours of operation. Answer all items which apply.

i. During Construction:

- Monday - Friday: 7 AM to 6 PM
- Saturday: 8 AM to 5 PM
- Sunday: N/A See Note (1)
- Holidays: N/A

ii. During Operations:

- Monday - Friday: See Note (2), (3) and (4)
- Saturday: See Note (2), (3) and (4)
- Sunday: See Note (2), (3) and (4)
- Holidays: See Note (2), (3) and (4)

NOTES TO HOURS OF OPERATION:

(1) There will be no Construction Hours on Sunday but the Property Management Office will be open from 12 PM to 4 PM.
(2) The clubhouse will be operating 24 hours with controlled access outside Property Management Hours.
(3) The maintenance will be on call 24/7 for emergencies and will be available on-site during the weekends for any repairs to the pool.
(4) Residence will be 24 hours a day - 7 days a week.

	Property Management	Maintenance	Commercial (i.e. coffee shop)
Monday - Friday	9 AM to 6 PM	8 AM to 5PM	6 AM to 9 PM
Saturday:	10 AM to 4 PM	On Call	7 AM to 9 PM
Sunday:	12 PM to 4 PM	On Call	7 AM to 8 PM
Holidays:	Closed	On Call	7 AM to 6 PM

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? ☑ Yes ☐ No

If yes:

i. Provide details including sources, time of day and duration:

Construction vehicles will exceed existing ambient noise levels. Construction hours are anticipated to be Monday - Friday 7AM to 6PM and Saturdays from 8 AM to 5 PM with no construction on Sundays and Holidays.

ii. Will the proposed action remove existing natural barriers that could act as a noise barrier or screen? ☑ Yes ☐ No

Describe: Some existing trees will be remove during construction. Some existing tree buffers will remain but some tree buffers will be removed and replanted.

n. Will the proposed action have outdoor lighting? ☑ Yes ☐ No

If yes:

i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:

Light pole fixtures located through parking areas to provide safe access in the parking lot to the residence. Fixtures will be between 16-25 ft. in height and toward the ground. The lights are proposing to be LED and night-sky compliant lighting. Section 910 of local Zoning Ordinance shall be met.

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? ☑ Yes ☐ No

Describe: Tree removal is required for development. Trees along the property line will be kept to a minimum through the use of walls and building designs that step down with the grading. Any trees removed will supplemented with proposed landscaping buffers.

o. Does the proposed action have the potential to produce odors for more than one hour per day? ☐ Yes ☑ No

If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures: _____

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? ☐ Yes ☑ No

If Yes:

i. Product(s) to be stored _____

ii. Volume(s) _____ per unit time _____ (e.g., month, year)

iii. Generally, describe the proposed storage facilities: _____

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? ☐ Yes ☑ No

If Yes:

i. Describe proposed treatment(s):

ii. Will the proposed action use Integrated Pest Management Practices? ☐ Yes ☑ No

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? ☑ Yes ☐ No

If Yes:

i. Describe any solid waste(s) to be generated during construction or operation of the facility:

- Construction: construction waste* tons per 40 tons/month (unit of time)
- Operation : residential uses tons per 36 tons/month (unit of time)

ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:

- Construction: See below**
- Operation: Recycling dumpsters will be available for separate trash and pick-up. Recycling will be encouraged.

iii. Proposed disposal methods/facilities for solid waste generated on-site:

- Construction: Subcontractors solid waste companies will remove debris from site and dispose of them locally under proper jurisdictional code requirements. Subcontractor recycling companies will remove recyclables and process them locally under same.
- Operation: Dumpster pick-up with local waste management and recycling companies.

Notes to Solid Waste Disposal

*More specifically from drywall, framing, concrete, misc. building materials, cardboard, etc.

**Reduction by correct use, storage and material management. Recycle of building material packaging - i.e. pallets, plastic, cardboard, wrapping, etc. Purchasing of specific waste factor percentage to drive trades towards minimizing waste. Construction waste will be separated by trade and by building. Materials identified as recyclables will be placed in recyclable haul off dumpsters and waste materials will be placed in haul off waste dumpsters. Monitoring and removal will be performed by a reputable and reliable company/companies under bulk purchase agreement of contract for the entire project. Each subtrade will be held responsible by way of their contract to separate waste from recyclables to minimize waste.

s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____

ii. Anticipated rate of disposal/processing:

- _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
- _____ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: _____ years

t. Will the proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

ii. Generally describe processes or activities involving hazardous wastes or constituents: _____

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐ Yes ☐ No

If Yes: provide name and location of facility: _____

If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility:

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

☐ Urban ☐ Industrial ☑ Commercial ☑ Residential (suburban) ☐ Rural (non-farm)
☑ Forest ☑ Agriculture ☐ Aquatic ☐ Other (specify): _____

ii. If mix of uses, generally describe:

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	1.2	8.00	+6.80
• Forested	0.0	0.0	0.0
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	14.88	7.69	-7.19
• Agricultural (includes active orchards, field, greenhouse etc.)	0.0	0.0	0.0
• Surface water features (lakes, ponds, streams, rivers, etc.)	0.0	0.84	+0.84
• Wetlands (freshwater or tidal)	0.62	0.18	-0.44
• Non-vegetated (bare rock, earth or fill)	0.0	0.0	0.0
• Other Describe: _____			

c. Is the project site presently used by members of the community for public recreation? ☐Yes☑No

i. If Yes: explain: _____

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? ☑Yes☐No

If Yes,

i. Identify Facilities:

Cornell University, Varna Community Association, Inc., daycare center within the Varna Community Association.

e. Does the project site contain an existing dam? ☑Yes☐No

If Yes:

i. Dimensions of the dam and impoundment:

- Dam height: 15 feet
- Dam length: 180 feet
- Surface area: 0.5 acres
- Volume impounded: 1.6 Million gallons OR acre-feet

ii. Dam's existing hazard classification: "A" or "low hazard"

iii. Provide date and summarize results of last inspection:

Dam was inspected 6/23/98 by NYSDEC Div. of Water and found to be in need of repairs. Specifically, the existing earthen berm was though to be poorly constructed. Deficiencies of the embankment and the blow out at the control structure were noted and remedial measures recommended.

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? ☐Yes☑No

If Yes:

i. Has the facility been formally closed? ☐Yes☐No

- If yes, cite sources/documentation: _____

ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:

iii. Describe any development constraints due to the prior solid waste activities: _____

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? ☐Yes☑No

If Yes:

i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? ☑Yes☐No

If Yes:

i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: ☑Yes☐No

☑ Yes – Spills Incidents database — Provide DEC ID number(s): 1710909

☐ Yes – Environmental Site Remediation database — Provide DEC ID number(s): _____

☐ Neither database

ii. If site has been subject of RCRA corrective activities, describe control measures: _____

iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? ☐Yes☑No

If yes, provide DEC ID number(s): _____

iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):

v. Is the project site subject to an institutional control limiting property uses? ☐Yes ☑No

- If yes, DEC site ID number: _____
- Describe the type of institutional control (e.g., deed restriction or easement): _____
- Describe any use limitations: _____
- Describe any engineering controls: _____
- Will the project affect the institutional or engineering controls in place? ☐Yes ☐No
- Explain: _____

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? > 25' feet

b. Are there bedrock outcroppings on the project site? ☐Yes ☑No
If Yes, what proportion of the site is comprised of bedrock outcroppings? _____ %

c. Predominant soil type(s) present on project site:

Hudson Silt Loam	31.9 %
Darien Gravely Silt Loam	19.1 %
Rhinebeck Silt Loam	17.4 %

d. What is the average depth to the water table on the project site? Average: > 25' feet

e. Drainage status of project site soils:
☑ Well Drained: 21.3 % of site
☑ Moderately Well Drained: 31.9 % of site
☑ Poorly Drained 46.8 % of site

f. Approximate proportion of proposed action site with slopes:
☑ 0-10%: 64.9 % of site
☑ 10-15%: 17.4 % of site
☑ 15% or greater: 17.7 % of site

g. Are there any unique geologic features on the project site? ☐Yes ☑No
If Yes, describe: _____

h. Surface water features.

i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? ☑Yes ☐No

ii. Do any wetlands or other waterbodies adjoin the project site? ☑Yes ☐No

If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.

iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? ☑Yes ☐No

iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

- Streams: Name 2 streams unnamed - associated with Falls Creek. Classification Intermittent Streams
- Lakes or Ponds: Name none Classification _____
- Wetlands: Name Unnamed Approximate Size 0.62
- Wetland No. (if regulated by DEC) _____

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? ☐Yes ☑No

If yes, name of impaired water body/bodies and basis for listing as impaired: _____

i. Is the project site in a designated Floodway? ☐Yes ☑No

j. Is the project site in the 100-year Floodplain? ☐Yes ☑No

k. Is the project site in the 500-year Floodplain? ☐Yes ☑No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? ☐Yes ☑No
If Yes:

i. Name of aquifer: _____

m. Identify the predominant wildlife species that occupy or use the project site:

white tail deer	eastern cottontail rabbit	gray squirrel
raccoon	eastern skunk	white-footed mouse
green frog and American toad	year-round birds*	seasonal birds*

n. Does the project site contain a designated significant natural community? ☐Yes ☑No

If Yes:

i. Describe the habitat/community (composition, function, and basis for designation): _____

ii. Source(s) of description or evaluation: _____

iii. Extent of community/habitat:

- Currently: _____ acres
- Following completion of project as proposed: _____ acres
- Gain or loss (indicate + or -): _____ acres

o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? ☑ Yes ☐No

If Yes:

i. Species and listing (endangered or threatened): _____

The NYSDEC has identified the subject property to lie within habitat known to have or support a threatened or endangered species (Sedge Wren and Northern Long Eared Bat). NYSDEC Staff has evaluated the project and concluded that they do not anticipate the proposed action to result in a take of the Sedge Wren. In addition, our wetland consultant has written a letter providing recommendation to avoid any takes of the Northern Long Eared Bat.

p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? ☐Yes ☑No

If Yes:

i. Species and listing: _____

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☐Yes ☑No

If yes, give a brief description of how the proposed action may affect that use: _____

E.3. Designated Public Resources On or Near Project Site

a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐Yes ☑No

If Yes, provide county plus district name/number: _____

b. Are agricultural lands consisting of highly productive soils present? ☑Yes ☐No

i. If Yes: acreage(s) on project site? 2.4

ii. Source(s) of soil rating(s): NYS Agricultural Land Classification System

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐Yes ☑No

If Yes:

i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature

ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☐Yes ☑No

If Yes:

i. CEA name: _____

ii. Basis for designation: _____

iii. Designating agency and date: _____

*Notes on predominant wildlife:
Year-round Birds could include black capped-chickadee, white breasted nuthatch, downy woodpecker, mourning dove and European starling.
Seasonal Birds could include red-winged blackbird, song sparrow, house wren and American robin.

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places? ☐ Yes ☑ No

If Yes:

i. Nature of historic/archaeological resource: ☐ Archaeological Site ☐ Historic Building or District

ii. Name: _____

iii. Brief description of attributes on which listing is based:

_____

f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory? ☐ Yes ☑ No

g. Have additional archaeological or historic site(s) or resources been identified on the project site? ☐ Yes ☑ No

If Yes:

i. Describe possible resource(s): _____

ii. Basis for identification: _____

h. Is the project site within fives miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? ☑ Yes ☐ No

If Yes:

i. Identify resource: *See below for list.

ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): Local Park

iii. Distance between project and resource: 0.5 miles.

i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? ☐ Yes ☑ No

If Yes:

i. Identify the name of the river and its designation: _____

ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666? ☐ Yes ☐ No

F. Additional Information

Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

I certify that the information provided is true to the best of my knowledge.

Applicant/Sponsor Name Michael B. Keith Date 11/11/2019

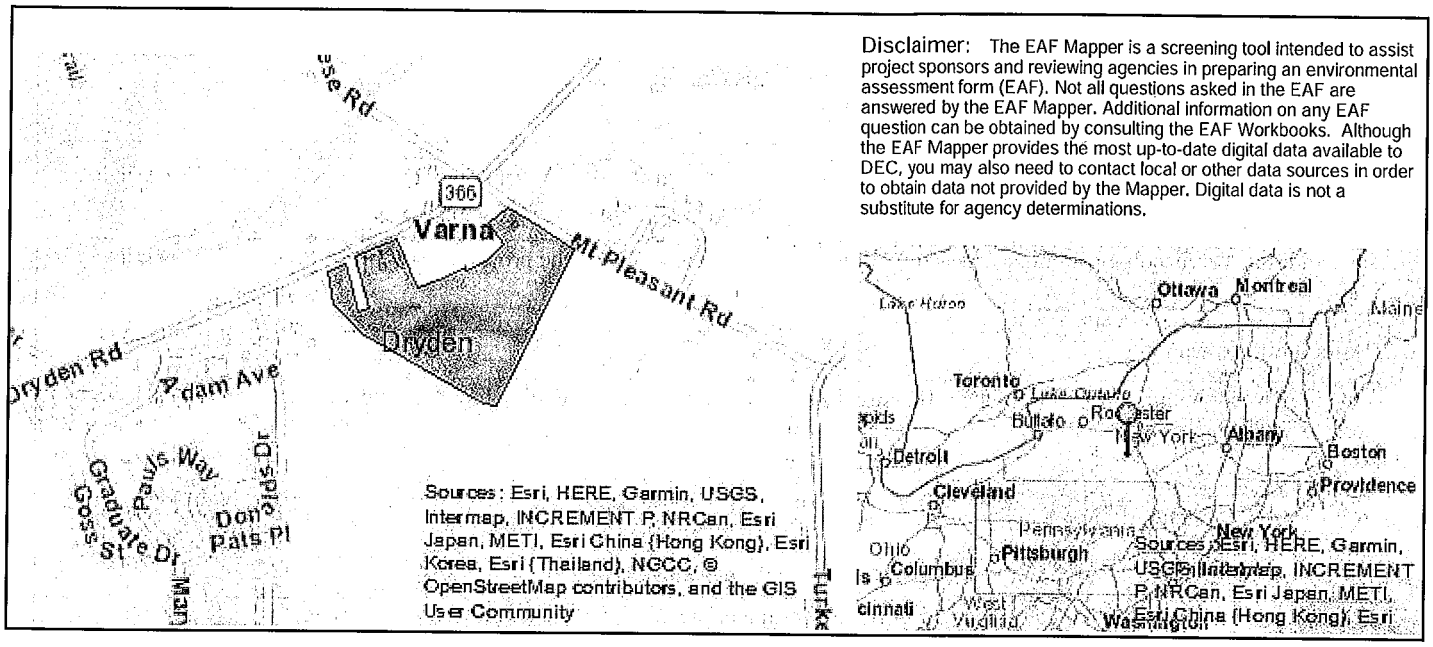
Signature Michael B Keith Title Engineer of Record

*Notes on Official Designated Resources:
Cornell Botanic Gardens, Falls Creek Corridor Unique Natural Area, Monkey Run Unique Area, Federally designated Fall Creek Wetland, Cayuga Trail, Federally designated Frees Road Bridge (eligible for listing on the National Register of Historic Structures)

PRINT FORM

EAF Mapper Summary Report

Monday, June 25, 2018 10:53 AM



Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources in order to obtain data not provided by the Mapper. Digital data is not a substitute for agency determinations.

B.i.i [Coastal or Waterfront Area]	No
B.i.ii [Local Waterfront Revitalization Area]	No
C.2.b. [Special Planning District]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.iii [Within 2,000' of DEC Remediation Site]	No
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	No
E.2.h.ii [Surface Water Features]	Yes
E.2.h.iii [Surface Water Features]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.2.j. [100 Year Floodplain]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.2.k. [500 Year Floodplain]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.2.l. [Aquifers]	No
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	No

E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	No
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	No
E.3.e. [National Register of Historic Places]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.3.f. [Archeological Sites]	No
E.3.i. [Designated River Corridor]	No

Report to the CB on Ag Committee Meeting of 11/13/2019

Monica Roth from Tompkins County CCE was in attendance and shared updates on the Ag District review. The Committee reviewed properties that may be taken out of the Ag District due to changes in their status and/or they may be small and isolated from the contiguous predominately ag lands. It was decided that some of those properties should receive a letter asking the landowner if they want to continue to be included in the Ag District. Monica said she would follow up with those property owners and report back at the next meeting.

The following excerpts are taken from the Draft November Minutes. This is the best way to understand what the discussion was about.

New Business – GREEN NEW DEAL

Naomi Crimm, Cornell Grad Student, studying planning. She is interested in the process and how to bring different stakeholders on board to ensure that the policy that is created reflects many voices. So far, it seems to be focused only on the City of Ithaca, but there is potential for things to happen that will affect the surrounding area. Once voice that hasn't been heard yet is the voice of farmers. The goal is to collect these different voices and make a report that the City of Ithaca will see and hopefully that can influence the way that the approach this. Potentially the City could look for land to lease for a community solar project, another could be looking to invest in carbon offsets. Paying rural landowners or farmers to reduce emissions for what the City is unable to do.

She is looking for our reactions to those types of policies. What should they have in mind?

Discussion:

- Install solar panels on buildings in the City.
- The process of sequestering the carbon, you have short-term (such as an annual crop), you have long-term (such as forests). Whether you are dealing with forestry land or annually cropped ground, there is a different mathematical formula that must be used.
- Some research shows that annual crops do not really sequester any carbon, you might break even.
- Equipment needed for planting is coming from carbon-based fossil fuels.
- How does the State factor in with all the state forests/lands that are around?

- New technology for measuring carbon sequestration.
- If you decrease the amount of tillage you do, you're not using as much gas.
- Hopefully policy will not put more burden on farms.
- Challenges: Weather and regulations.
- People in the City do not understand that what might work in one part of the county will not work throughout the entire county. Soil structures, altitudes, scale of the farm all need to be taken in to account.
- Misunderstanding the people in the City have about agriculture. Cost effective means.
- Let the farmer decide what would work best for their own farm.
- Paying farmers for various conservation type programs, there should be a program that pays them for carbon sequestration. It must be measurable.
- Biochar vs. charcoal.

Agenda
Town of Dryden Conservation Board
Tuesday, 26 November 2019

7:00 - 9:00 p.m.
Dryden Town Hall
93 East Main Street, Dryden, NY 13053

Note: Items may be added to or removed from this agenda as needs and circumstances dictate.

Call to Order (7:00 p.m.) - Peter Davies

Completion of Record of Attendance by Members and Observers.

Review and Approval of Minutes from October 29th 2019.

Additions to Agenda?

Discussion of Reports and Updates (if any) from Boards, Commissions, etc. (previously distributed by email please).

Old Business:

- Additional discussion on ditch management: Gian Dodici
- The Town's "Restricted covenant" rule as it relates to protecting open space: Craig Anderson and Gian Dodici.

New Business

- Report on riparian buffer workshop held November 21st by Cornell Cooperative Extension: Peter Davies.
- Trinitas Housing development in Varna: State Environmental Quality Review (SEQR) and storm water management (see attachments).
- Action items for the CB in coming year: Craig Schutt.
- Discussion and vote for new Chair starting January 2020.
- Any other business

Adjourn